U. S. DEPARTMENT OF COMMERCE

Charles Sawyer, Secretary

CIVIL AERONAUTICS ADMINISTRATION

Charles F. Horne, Administrator

Certification, Identification And Marking of Aircraft and Related Products

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Civil Aeronautics Manual 1

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INTRODUCTORY NOTE

The *following rules, policies, and interpretations of the* Administrator of Civil Aeronautics pertain to Part I of the Regulations of the Civil Aeronautics Board, which became effective January 15, 1951, as amended by Amendment 1–1 which became effective March 5, 1952. The complete text of Part I is included in this manual to assist the *public in understanding how the* Administrator's rules, policies, and interpretations apply to the various sections of the Civil Air Regulations.

CAA *rules* are supplementary regulations issued pursuant to authority expressly conferred on the Administrator in the Civil Air Regulations. Such rules are mandatory and must be complied with.

CAA *policies* provide detailed technical information on recommended methods of complying with the Civil Air Regulations. Such policies are for the guidance of the public and are not mandatory in nature.

CAA *interpretations* define or explain words and phrases of the Civil Air Regulations. Such interpretations are for the guidance of the public and will be followed by the Administration in determining compliance with the regulations.

The Administrator's rules, policies, and interpretations explain and interpret the Civil Air Regulations, and set forth acceptable procedures and practices for the guidance of the public in complying with the regulations. Other methods or practices which provide safety or control equivalent to those specified herein will also be acceptable. Any provisions which are shown to be inapplicable in a particular case will be accordingly interpreted.

The text of this manual is arranged to set forth in bold type each numbered section of the Civil Air Regulations followed by related rules, policies, or interpretations of the Administrator. The Administrator's sections pertaining to a particular section of the Board's regulations are identified by consecutive dash numbers appended to the regulation section numbers. Thus section 1.0 means section 1.0 of the Civil Air Regulations, and section 1.0–2 means the second of the Administrator's sections under section 1.0.

The manual material contained herein will be revised from time to time as the need for new or revised rules, policies, interpretations, procedures, or practices are brought to the attention of the Civil Aeronautics Administration.

This manual outlines the standard procedures for type, production, and airworthiness certification, and for the display of nationality and registration markings. Manufacturers utilizing the delegation option system as provided for in Part 410 of the Regulations of the Administrator will be guided by the rules, policies, and interpretations contained herein, except in those instances wherein regulations provided in Part 410 are at variance with procedures contained in this manual.

This manual supersedes Safety Regulation Release No. 214; supplement 2 of CAM 3; and sections 3.11–1 and –2 of supplement 5 of CAM 3.

Certification, Identification, and Marking Of Aircraft and Related Products

APPLICABILITY AND DEFINITIONS

"CAR 1.0 *Applicability of this part.* This part establishes administrative requirements for the issuance of type, production, and airworthiness certificates, and for the identification and marking of aircraft and related products.

"CAR 1.1 *Definitions.* As used in this part, terms are defined as follows:

"(a) *Administration.*—(1) *Administrator.* The Administrator is the Administrator of Civil Aeronautics.

"(2) *Applicant.* An applicant is a person or persons applying for approval of an aircraft or any part thereof.

"(3) *Approved.* Approved, when used alone or as modifying terms such as means, devices, specifications, etc., shall mean approved by the Administrator.

"(4) *Authorized representative of the Administrator.* An authorized representative of the Administrator means any employee of the Civil Aeronautics Administration or any private person, authorized by the Administrator to perform any of the duties delegated to the Administrator by the provisions of this part.

"(5) *Person.* Person means any individual, firm, copartnership, corporation, company, association, Joint-stock association, or body politic; and includes any trustee, receiver, assignee, or other similar representative thereof.[1]

"(6) *Prime manufacturer.* A prime manufacturer means the person who initiated the design and construction of the product and who applied for the type certificate, or any person to whom a current right to reproduce the product has been transferred.

"(7) *Subsidiary manufacturer.* A subsidiary manufacturer means the person who contracted with the prime manufacturer to produce and to supply to the prime manufacturer major assemblies and components which are manufactured in conformity with the prime manufacturer's approved drawings and data for the fabrication of the product.

"(8) *United States.* United States means the several States, the District of Columbia, and the several Territories and possessions of the United States, including the Territorial waters and the overlying air space thereof.[1]

"(b) *Design*—(1) *Aircraft.* An aircraft means any contrivance now known or hereafter invented, used, or designed for navigation of or flight in the air.[1]

"(2) *Aircraft engine.* An aircraft engine means an engine used, or intended to be used, for propulsion of aircraft and includes all parts, appurtenances, and accessories thereof other than propellers.[1]

"(3) *Appliances.* Appliances means instruments, equipment, apparatus, parts, appurtenances, or accessories, of whatever description, which are used, or are capable of being or intended to be used, in the navigation, operation, or control of aircraft in flight (including parachutes and including communication equipment and any other mechanism or mechanisms installed in or attached to aircraft during flight), and which are not a part or parts of aircraft, aircraft engines, or propellers.[1]

"(4) *Product.* The term product, as used in this part, means: (i) An aircraft, (ii) an aircraft engine, (iii) a propeller, or (iv) any appliance specified in the Civil Air Regulations as eligible for a type certificate.

"(5) *Propeller.* A propeller includes all parts, appurtenances, and accessories thereof." [1]

"CAR 1.2 *Type design.* The type design shall consist of such drawings and specifications as are necessary to disclose the configuration of the product and all the design features covered in the requirements of that part of the Civil Air Regulations under which the product is certificated, such information on dimensions, materials, and processes as is necessary to define the structural strength of the product, and such other data as are necessary to permit by comparison the determination of the airworthiness of subsequent products of the same type."

[1] As defined in section 1 of the Civil Aeronautics Act of 1938, as amended.

TYPE CERTIFICATES

"CAR 1.10 *Application.* Any person, whether or not a citizen of the United States, may apply for the issuance of a type certificate. The application for a type certificate for a specified product shall be made upon a form and in a manner prescribed by the Administrator."

1.10-1 APPLICATION FOR TYPE CERTIFICATE. (*CAA rules which apply to section 1.10.*)

(a) APPLICATION FOR AIRCRAFT TYPE CERTIFICATE, FORM ACA-312.[1]

This application shall be submitted in duplicate by the applicant to the appropriate regional office of the Civil Aeronautics Administration.

The application shall be accompanied by a three-view drawing and such preliminary basic data as the applicant may have available.

(b) APPLICATION FOR AN ENGINE TYPE CERTIFICATE, FORM ACA-312.[1] This application shall be submitted in duplicate, together with preliminary technical data as required by Part 13, to the Aircraft Engineering Division, Civil Aeronautics Administration, Washington 25, D. C.

(c) APPLICATION FOR A PROPELLER TYPE CERTIFICATE, FORM ACA-312.[1] This application, together with Form ACA-335,[1] Propeller Supplement to Application for Type Certificate, ACA-312, shall be submitted in duplicate to the Aircraft Engineering Division, Civil Aeronautics Administration, Washington 25, D. C.

The Form ACA-335 shall contain a description of the design features, the proposed rating, and intended application of the propeller.

The preliminary data as required in Part 14, and the application forms shall be submitted prior to starting any portion of the official type test.

NOTE.—The application, Form ACA-312, serves as a formal request by the applicant and shall be submitted for each new model eligible for approval under the terms of a type certificate.

"CAR 1.11 *Products for which issued.* A type certificate may be issued for an aircraft, aircraft engine, propeller, or any appliance for which certification is provided elsewhere in the Civil Air Regulations."

1.11-1 APPLIANCES. (*CAA policies which apply to section 1.11.*)

Inasmuch as Part 15 of the Civil Air Regulations has been rescinded, that portion of section 1.11 relating to "appliances" may be considered as no longer applicable. Appliances formerly covered by Part 15 are now covered by Technical Standard Orders. Likewise, items formerly approved under a Product and Process Specification have, for the most part, been covered by Technical Standard Orders. Those items formerly covered by Product and Process Specifications which as yet are not approved under the Technical Standard Order system should be approved as a part of the airplane. (Procedures relating to the type certification of communications equipment are contained in CAM 16.)

"CAR 1.12 *Requirements for issuance.* A type certificate for a product shall be issued when:

"(a) The applicant has submitted the type design (see section 1.2), test reports, and computations as may be required by that part of the Civil Air Regulations under which the product is to be certificated.

"(b) Upon examination of the type design and the completion of all tests and inspec-

[1] The reporting requirements of this form have been approved by the Bureau of the Budget in accordance with the Federal Reports Act of 1942.

tions, the Administrator finds that the type design meets the requirements of the applicable Civil Air Regulations."

1.12–1 REQUIREMENTS FOR ISSUANCE OF TYPE CERTIFICATES. ***(CAA policies which apply to section 1.12.)***

(a) The requirements for the issuance of a type certificate for an aircraft may be found in the following parts of the Civil Air Regulations:

(1) PART 3. Airplane Airworthiness Normal, Utility, and Acrobatic Categories.

(2) PART 4a. Airplane Airworthiness. NOTE.—Applies to new airplanes for which application for type certificate was received prior to the effective dates prescribed in Part 3, dated November 1, 1949, and Part 4b, dated October 1, 1949.

(3) PART 4b. Airplane Airworthiness Transport Categories.

(4) PART 5. Glider Airworthiness.

(5) PART 6. Rotorcraft Airworthiness.

(6) PART 8. Aircraft Airworthiness Restricted Category.

(7) PART 9. Aircraft Airworthiness Limited Category.

(8) PART 13. Aircraft Engine Airworthiness.

(9) PART 14. Aircraft Propeller Airworthiness.

(10) PART 16. Aircraft Radio Equipment Airworthiness.

"CAR 1.13 ***Location of manufacturing facilities.*** **No type certificate for a product shall be issued if the manufacturing facilities therefor are located outside the United States, unless where facilities are located outside the United States the Administrator finds that no undue burden on the Government is created in administering applicable requirements of the act or regulations issued thereunder."**

"CAR 1.14 ***Transferability.*** **A type certificate may be transferred or made available to third persons by licensing agreements, and the grantor shall immediately notify the Administrator in writing of any transfer, licensing agreement, or termination thereof. The provisions of § 1.13 shall be complied with."**

1.14–1 TRANSFERABILITY. ***(CAA interpretations which apply to section 1.14.)***

The CAA and the manufacturer to whom the type certificate is issued are the first and second persons involved, and any other person to whom the type certificate holder may transfer privileges incidental to the type certificate is the "third person."

"CAR 1.15 ***Inspection.*** **(a) A representative of the Administrator shall be permitted to make such inspections as may be necessary to determine compliance with applicable requirements.**

"(b) A product manufactured under a type certificate only shall be required to undergo inspection by a representative of the Administrator to determine whether individual products conform with the type design.

"(c) The manufacturer of a product being manufactured under a type certificate only shall maintain at the place of manufacture such technical data and drawings as may be necessary to determine whether the product or any part thereof conforms to the current type design."

1.15–1 INSPECTION. ***(CAA policies which apply to section 1.15.)***

(a) COMPLETE AIRCRAFT. In addition to the inspection of the prototype aircraft for conformity with the design data, all aircraft subsequently produced without benefit of a production certificate will be subjected to conformity inspection by a representative of the Administrator to determine conformity with the type design.

Aircraft manufactured under a type certificate only should be flight tested in accordance with requirements contained in section 1.19, and in accordance with procedures outlined in section 1.36–1 (d).

(b) COMPLETE ENGINES. Each engine produced under the terms of a type certificate only should be subjected to a satisfactory test run consisting of break-in runs which should include a determination of fuel and oil consumption and maximum power characteristics. This test run should include five hours of operation at the maximum rating, of which at least thirty minutes should be at take-off power and speed where this rating is in excess of the maximum continuous rating. Subsequent to

the completion of a test run, as described above, each engine should be subjected to such internal inspections and examinations by a CAA representative as may be necessary to ascertain that no unsafe condition exists. This test may be conducted with the engine mounted on a torque stand or on a fixed stand with a calibrated test club or propeller.

(c) COMPLETE PROPELLERS AND APPLIANCES. The nature and extent of functional or other tests and conformity inspections required in connection with the approval of propellers and other appliances manufactured under the terms of a type certificate only will be determined by a representative of the Administrator and will depend upon the nature and complexity of the product and production processes involved.

(d) INSPECTION APPROVAL OF COMPLETE PRODUCTS. When products other than complete aircraft or communications equipment (individual airworthiness certificates are issued for aircraft) are manufactured under the terms of a type certificate only, the aviation safety agent, having determined by inspection that the product is acceptable, will prepare and attach thereto, by means of a lead seal, an Approval Tag, Form ACA–186. This tag will show the make and model of the product tagged, will indicate that the product has been inspected and approved, and will be signed by the CAA agent.

(e) SHIPMENT OF UNASSEMBLED AIRCRAFT. Aircraft manufactured under a type certificate only, i. e., without benefit of a production certificate, may be shipped unassembled, provided: (1) The aircraft is assembled and flight tested by the manufacturer prior to shipment; (2) the aircraft is inspected for conformity and airworthiness by an aviation safety agent at the manufacturer's plant; and (3) Approval Tags, Form ACA–186, are attached to all major assemblies, components, and boxes of parts. These tags will be signed by the aviation safety agent and will indicate the make, model, and serial number of the aircraft.

(f) INSPECTION APPROVAL OF MAJOR COMPONENTS. Likewise, any major spare or replacement component of an aircraft, aircraft engine, propeller, or appliance manufactured under a type certificate only will be inspected for conformity and airworthiness by an aviation safety agent. All such major assemblies or components, upon determination of acceptability, will be tagged with Approval Tags, Form ACA–186, which identify the part to which attached and indicate the make and model of the aircraft, engine, propeller, etc., and the aviation safety agent's signature.

(g) INSPECTION APPROVAL OF MAJOR COMPONENTS FABRICATED BY A SUBSIDIARY MANUFACTURER. The conformity, quality, and acceptability of major components and critical parts manufactured by a subsidiary manufacturer in accordance with the prime manufacturer's approved drawings will be determined in accordance with section 1.34–1 (a) (2), except that, in accordance with section 1.15, an agent of the CAA will conduct such additional inspections as may be deemed necessary to determine conformity, compliance, and acceptability of materials and workmanship.

"CAR 1.16 *Duration.* A type certificate shall remain in effect until surrendered, suspended, revoked, or a termination date is otherwise established by the Board.

"CAR 1.17 *Display.* Type certificates shall be made available for examination by an authorized representative of the Board or of the Administrator.

"CAR 1.18 *Privileges.* The holder of a type certificate or license may produce duplicates of any product for which a type certificate has been issued.

"CAR 1.19 *Statement of Conformity.* (a) The holder of a type certificate only or of a current right to the benefits of a type certificate only under a licensing arrangement, upon the initial transfer by him of the ownership of any product manufactured under such type certificate or upon application for original issuance of an airworthiness certificate for an aircraft, shall furnish to an authorized representative of the Administrator a statement of conformity for such product on a form prescribed by the Administrator. For aircraft manufactured under a type certificate only, there shall be included a statement that the aircraft referred to has been flight checked. When a production certifi-

cate is held in addition to the type certificate, the provisions of § 1.35 shall apply. The Administrator may consider military acceptance in lieu of a statement of conformity for a product which has been manufactured for the military service.

"(b) A statement of conformity shall be furnished to an authorized representative of the Administrator, upon a form and in a manner prescribed by the Administrator, for any prototype product presented for type certification."

1.19–1 STATEMENT OF CONFROMITY. (*CAA rules which apply to section 1.19.*)

The manufacturer of any prototype product presented for type certification, or the manufacturer of a type certificated product manufactured without the benefit of a production certificate, shall present to a representative of the Administrator a properly executed Statement of Conformity, Form ACA–317.[2] The Statement of Conformity, Form ACA–317, shall certify that the completed product submitted for type inspection or certification has been manufactured in accordance with the current technical data approved by the Administrator, except for any deviations therefrom which shall be listed and described on the form. The Statement of Conformity shall be signed by a person who holds a responsible position in the manufacturer's organization and who has been authorized to perform this function by the holder of the type certificate or licensing agreement.

CHANGES IN TYPE DESIGN

"CAR 1.20 *General.* When the type design is changed, the applicant shall demonstrate that the product complies with the requirements of that part of the Civil Air Regulations under which it was certificated."

1.20–1 CHANGES IN TYPE DESIGN. (*CAA policies which apply to section 1.20.*)

Any design change which may affect the flight characteristics, structural integrity, or airworthiness of an aircraft, engine, propeller, or appliance for which a type certificate has been issued may require the submission of additional technical data. The examination of these data may indicate the necessity for additional engineering evaluation, inspection, and tests to substantiate the airworthiness of the product as modified.

"CAR 1.21 *Classification of changes.* Changes shall be classified as minor and major. A minor change shall be one which has no appreciable effect on the weight, balance, structural strength, reliability, operational characteristics, or other characteristics affecting the airworthiness of the product. A major change shall be one not classified as a minor change.

"CAR 1.22 *Approval of minor changes.* Minor changes in a type design may be approved by an authorized representative of the Administrator prior to the submittal to the Administrator of any substantiating or descriptive data.

"CAR 1.23 *Approval of major changes.* Major changes in a type design shall be approved only after receipt by the Administrator of substantiating data and necessary descriptive data for inclusion in the type design.

"CAR 1.24 *Service experience changes.*

"(a) Where the Administrator finds as a result of service experience that an unsafe condition exists with respect to a design feature, part, or characteristic of any product, and that such a condition is likely to exist or develop in other products of the same type design, he shall provide notice[1] thereof for all operators of products of that type, and the product shall not thereafter be operated until the unsafe condition has been corrected, unless otherwise authorized by the Administrator under specified conditions and limitations, including inspections. In addition, the provisions of subparagraphs (1) and (2) of this paragraph shall apply.

"(1) When the Administrator finds that design changes are necessary to correct the unsafe condition of the product, the holder of the type certificate, upon request of the

[2] The reporting requirements of this form are subject to the approval of the Bureau of the Budget in accordance with the Federal Reports Act of 1942.

[1] Notification of any unsafe condition, of the required corrective action, and of compliance dates is usually provided through the medium of Airworthiness Directives issued by the Administrator.

Administrator, shall submit appropriate design changes for the approval of the Administrator.

"(2) Upon approval, the descriptive data covering the changes shall be made available by the holder of the type certificate to all operators of products previously certificated under such type certificate.

"(b) Where no current unsafe condition exists but the Administrator or the holder of the type certificate finds through service experience that changes in type design will contribute to the safety of the product, the holder of the type certificate may submit appropriate design changes for the approval of the Administrator. Upon approval of such changes the manufacturer shall make available to all operators of the same type of product information on the design changes."

PRODUCTION CERTIFICATES

"CAR 1.30 *Application.* Any person, whether or not a citizen of the United States, may apply for the issuance of a production certificate. The application for a production certificate shall be made upon a form and in a manner prescribed by the Administrator."

1.30–1 PRODUCTION CERTIFICATE. ***(CAA interpretations which apply to section 1.30.)***

A production certificate is a document issued by the Administrator to a manufacturer certifying that the manufacturer's organization, facilities, and production and quality control systems in a particular location have been inspected by the CAA and found adequate for the production of duplicates of the product for which a type certificate has been issued.

1.30–2 SUBMITTING APPLICATION. ***(CAA rules which apply to section 1.30.)***

The application for a Production Certificate, Form ACA–332,[3] shall be submitted, in duplicate, to the appropriate regional office of the Civil Aeronautics Administration. The data required in section 1.36 shall be submitted with the application.

[3] The reporting requirements of this form have been approved by the Bureau of the Budget in accordance with the Federal Reports Act of 1942.

1.30–3 PROCESSING APPLICATION. ***(CAA policies which apply to section 1.30.)***

Upon receipt of an application and supporting production certification data (see section 1.36), the CAA will examine these data, and if they are considered satisfactory, issue a Manufacturing Inspection Authorization, Form ACA–313, authorizing an inspection of the applicant's facilities, organization, and systems to determine their adequacy for the production of duplicates of the product. If the application and supporting data submitted are not considered satisfactory, the CAA will so notify the applicant, and request supplemental information or data, as required, prior to issuing the manufacturing inspection authorization. Upon issuance of the manufacturing inspection authorization, an agent will be assigned to conduct the required inspection and report the results thereof on the Manufacturing Inspection Report, Form ACA–314.

"CAR 1.31 *Products for which issued.* A production certificate shall be issued only for products for which a type certificate is currently in effect. The applicant shall hold a currently effective type certificate for the product to be manufactured or shall hold a current right to the benefits of such certificate under a licensing agreement.

"CAR 1.32 *Requirements for issuance.* A person shall be issued a production certificate when the Administrator finds, after examination of the supporting data and after inspection of the organization and production facilities, that the applicant complies with the requirements of §§ 1.33 through 1.37."

1.32–1 ISSUANCE OF A PRODUCTION CERTIFICATE. ***(CAA policies which apply to section 1.32.)***

Upon receipt of an approved Manufacturing Inspection Report, Form ACA–314, from the aviation safety agent who conducted the inspections, the CAA will issue a Production Certificate, Form ACA–333, together with a Production Limitation Record, Form ACA 333a. The original of the production certificate and the original of the production limitation record will be delivered to the applicant.

1.32–2 PRODUCTION CERTIFICATION REQUIREMENTS. ***(CAA policies which apply to section 1.32.)***

The following provisions are considered a minimum in determining the eligibility of a manufacturer for a production certificate and are intended to be used by the aviation safety agent as a guide in conducting the factory inspection:

(a) MATERIALS AND PARTS. The manufacturer should have reliable sources for obtaining materials and parts which are uniform in quality and suitable for aircraft construction.

(b) PURCHASING. The manufacturer's method of purchasing should be such as to provide a check on the suitability of the materials received. Recognized specifications should be used as a basis for purchase orders when possible. The specification should be sufficiently detailed and comprehensive to insure procurement of material of a uniformly high grade, equaling or exceeding the minimum strength properties assumed in the structural design data approved by the CAA.

Deviations from this procedure may be made under the following conditions:

(1) The manufacturer may use materials, subassemblies, and essential components obtained from a supply source specializing in the manufacture of aircraft material and parts. In this case, he should ascertain that the supply source is following the procedures outlined in (b), and should require copies of the applicable verified test and inspection reports with his purchases.

(2) Manufacturers may establish their own specifications, provided these are submitted to the appropriate CAA regional office for approval.

(c) RECORDS OF PURCHASES. The manufacturer should maintain complete records of all purchases and the disposition of such purchases for a period of at least two years to enable him to check back on any particular lot of material in which defects may later be found.

(d) RECORDS OF INSPECTION. The manufacturer should have an established procedure for the inspection of all purchases before placing them in the stockroom. Records of all incoming inspections should be maintained by the manufacturer for at least two years. They should include information concerning source, source inspection, receiving inspection, quantity (both accepted and rejected), vendor's affidavits, or reports indicating conformity with recognized aircraft standards and disposition of materials handled.

(e) STOCKROOM. The manufacturer should maintain a clean, orderly, and carefully managed stockroom and have:

(1) An adequate number of shelves, bins, or other individual storage spaces which are properly marked;

(2) Provisions for keeping records in an orderly manner;

(3) Boundaries defined by partitions with a designated opening through which all stock is issued in order to prevent access to the stock by unauthorized personnel;

(4) A responsible person in charge of all entries, storing, withdrawals and an appropriate system for recording them;

(5) All stock in designated places, except temporarily during sorting and inspection;

(6) No material or parts stocked which are known to be defective or damaged, even though they may be so marked.

There is no objection to combining toolroom with stockroom.

(f) IDENTIFICATION OF STOCK. Provisions should be made for the appropriate storing and identification of incoming material and parts or manufactured parts in such a manner as to preclude the inadvertent issuing of the wrong part or material. Particular attention should be given to the segregation and identification of items of a similar appearance but with different physical characteristics.

(g) PROTECTION OF STOCK. Adequate protection should be provided for materials subject to damage from abrasion, sunlight, temperature, moisture, grease, or corrosion.

(h) PRODUCTION. Production control procedures should be established to insure proper routing of materials and parts for inspection. Suitable means should be provided for identifying parts or materials as they progress through the factory. This could be a production job card which specifies materials to be used, processing flow, and specific inspection operations, and provides a place for recording the completion of each of these operations. This card should accompany the part or assembly through all its stages of operation and will

be a complete record of production, inspection, and processes involved.

It is realized that equivalent procedures may be employed and these are acceptable provided the control is adequate to preclude unfinished, inferior, or damaged parts being installed in the completed products.

(i) FACILITIES. The manufacturer's facilities should be adequate to produce units in conformity with the technical design data for which the type certificate is granted.

Accommodations should be provided which will adequately protect both the facilities and the product during fabrication. Provisions should be made to isolate processes which adversely affect or may be affected by other operations.

The amount and type of equipment required will depend upon the complexity of the product and the rate and volume of production.

(j) PROCESSES. Production manufacturing processes such as woodworking, gluing, welding, heat treatment, metal work, etc., employed by the applicant, should be so controlled as to produce parts and assemblies which are equivalent to the original approved product.

In addition to controlling manufacturing processes, a definite procedure should be established and followed in connection with each process employed so that conformity of material, workmanship, and standards is maintained.

(1) WOODWORKING. Provisions should be made to maintain the moisture content of wood within approved limits during fabrication. (Ref. ANC 19a, "Wood Aircraft Inspection and Fabrication.")

(2) GLUING. Gluing operations should be performed in accordance with a process specification found to be acceptable.

(3) WELDING AND BRAZING. When a welding or brazing process such as flash welding or induction brazing requires close control in order to consistently produce acceptable parts, the process should be performed in accordance with a process specification found to be acceptable.

(4) HEAT TREATMENT. Under the category of heat treatment come all processes for the conditioning of metals by heat; such as hardening, tempering, annealing, normalizing, etc., of both ferrous and nonferrous metals. Rigid procedures should be established to control heat-treat operations in order to assure that desired properties are obtained. In the event parts are heat-treated by an outside agency, it is the responsibility of the production certificate holder to determine the adequacy of such agency, and the acceptability of the results.

(5) METAL WORK. The fabrication of metal parts by various forming and machining operations should be controlled by the observance of approved standards to attain the surface finishes which are indicated on approved drawings, regular contours, etc., required in metal structures.

(k) QUALITY CONTROL. For additional "requirements for issuance," as provided for in section 1.32, see requirements for "quality control" as provided for below in section 1.34–1.

"CAR 1.33 *Location of manufacturing facilities.* No production certificate for a product shall be issued if the manufacturing facilities therefor are located outside the United States, unless where facilities are located outside the United States the Administrator finds that no undue burden on the Government is created in administering applicable requirements of the act or regulations issued thereunder."

1.33–1 LOCATION OF MANUFACTURING FACILITIES. (*CAA policies which apply to section 1.33.*)

Subsidiary manufacturers' facilities should be located within the United States, since it is not feasible to conduct the required inspections beyond these limits without placing undue burden on the CAA.

"CAR 1.34 *Quality control.* The applicant shall show that he is adequately prepared to manufacture and control the quality of any product for which he requests production certification, so that each article shall conform with the design provisions of the pertinent type certificate. A product manufactured under a production certificate may be required to undergo inspection by a representative of the Administrator to determine whether the individual product conforms to the type design."

1.34–1 QUALITY CONTROL. (*CAA policies which apply to section 1.34.*)

The following shall be considered as a min-

imum in determining the acceptability of the manufacturer's quality control system as provided for in section 1.34:

(a) INSPECTION SYSTEM. The activities of the aircraft industry are of such number and variety that it is impracticable, within the scope of this manual, to give more than a general outline of the manner in which an approved inspection organization should operate.

(1) INSPECTION—PRIME MANUFACTURER. The prime manufacturer's inspection organization should be controlled by a chief inspector who, in turn, should be directly responsible to the management of the firm so that his decisions are not influenced by considerations other than the quality of the work for which he is responsible. It is also essential that the chief inspector control inspection through all departments of the firm. If such an arrangement is not possible by reason of the fact that certain departments are engaged in specialized work, these departments should operate under a separate inspection system. However, their activities should be coordinated under the general supervision of a quality control organization. The same procedure should apply in the case of dispersed or branch facilities of a main organization when inspection activity is divided.

The inspection system should be so organized that parts and materials will receive appropriate inspection while in an inspectable condition. *Spot and sampling inspection* systems may be considered as meeting these requirements provided the prime objectives of conformity, airworthiness, and safety are assured.

The inspection department should be provided with tools and equipment necessary to conduct all phases and types of inspection and tests essential to the continued production of duplicate products. Master templates, precision tools, and gauges should be readily available and used by the inspection department. The tools used by the production department in constructing the part, if used by inspection, should be periodically checked to determine that the results obtained are within approved tolerances and that conformity with approved design data is maintained.

Clearly defined areas for inspection of large units on the production floor and cages or booths for smaller items should be provided in order that the inspectors may operate efficiently and without interference.

Definite procedures should be established for delivering parts to the inspection booths and for removing and storing inspected parts in order that installation of uninspected parts will be prevented.

After the manufacturer's facilities are approved for a production certificate, detailed inspection by the CAA of each part or component during fabrication will not normally be necessary. Continuation of this procedure will depend upon the extent to which the manufacturer maintains the adequacy of such facilities and the conformity and quality of the article produced.

Civil Aeronautics Administration personnel will spot-check to determine whether individuals in the inspection department are capable and fulfill their duties in an efficient manner.

(2) INSPECTION—SUBSIDIARY MANUFACTURER. The following is in reference to major components, assemblies, or critical parts which are fabricated by a subsidiary manufacturer in accordance with the prime manufacturer's (type certificate holder's) approved drawings. This relates only to those components and parts which are delivered to the prime manufacturer for installation on or in the type certificated product. It will be necessary that the prime manufacturer or his authorized representative conduct such inspections and investigations as may be necessary to determine the acceptability of such parts before they are presented to the CAA for inspection in the final configuration. Acceptability, as referred to above, includes determination of compliance with related regulations and standards, conformity with approved design data forming the basis for type certification of the finished product, and the general acceptability and airworthiness of materials and workmanship incorporated in these products, as provided for in section 1.15 with respect to products manufactured under a type certificate only, or as provided herein with respect to products manufactured under a type and production certificate. If these major components, assemblies, or critical parts are of such a nature that they cannot be properly inspected for determination of ac-

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ceptability when received at the prime manufacturer's facilities, it will be the responsibility of the prime manufacturer to arrange for the performance of such inspections at the subsidiary manufacturer's plant as may be necessary to make these determinations. Examples of the assemblies, components, and parts referred to above include covered wings, covered control surfaces, rotary gear box assemblies, landing gear assemblies, and other critical parts, the malfunctioning or failure of which might adversely affect the operational characteristics or safety of the aircraft. The prime manufacturer holds basic responsibility for the conformity, airworthiness, and acceptability of the finished product, and, in accordance with section 1.19, will be required to submit a statement of conformity with respect to each product manufactured under a type certificate only which is to be presented for CAA approval in the case of engines, propellers, etc., or certification in the case of an aircraft. The prime manufacturer should arrange with the subsidiary manufacturers to permit CAA inspection at the subsidiary manufacturers' plants on request from authorized aviation safety agents.

(b) INSPECTION RECORDS. Inspection records should be maintained which are complete and present a historical compilation of all events during the course of manufacture. Smaller parts, which are inspected in quantities, should be segregated, tagged, stamped, or otherwise marked after having been inspected.

It is recommended that continuous records of all parts be maintained which indicate the name, drawing number, number of pieces inspected, and the number accepted and rejected.

At final assembly, the inspection forms for the components of the completed unit should be identified with the complete unit, so that they may be traced at a later date if it becomes necessary to place responsibility for inspection of various components or to determine that all components have been inspected.

Company production inspection forms and records should be retained in the files of the manufacturer for at least one year subsequent to the date of sale and delivery of the product involved. Under such a system, individual inspection responsibility may be established at a later date.

(c) INSPECTOR'S IDENTIFICATION. All parts inspected and approved should be permanently marked when practicable to identify the individual inspector responsible.

(d) INSPECTORS REQUIRED. The number of inspectors required to perform the necessary inspection will vary with the complexity of the product and of processes involved. It will also vary between departments and with labor conditions. Under any circumstances there should be sufficient inspection personnel to adequately check all processes and products to the extent necessary to provide reasonable assurance of conformity, quality, and acceptability of the finished product. Spot and sampling inspection systems may be considered as meeting these requirements provided the prime objective of conformity, airworthiness, and safety is assured. Inspection personnel should be vested with sufficient authority to permit them to perform their assigned duties in a manner which will warrant the issuance or continuation of a production certificate, provided other requirements are complied with.

(e) MATERIAL REVIEW. Procedures should be established for the satisfactory processing of items rejected due to damage or manufacturing errors, but which, by reason of action by the Material Review Board, are found to be serviceable. Such procedures should provide for the routing of salvaged or reworked parts for reinspection, the maintenance of complete records concerning the salvage or rework operations and the results of reinspection.

(f) TECHNICAL DATA. A system should be established whereby detailed drawings and other technical data are available to both production and inspection personnel.

"CAR 1.35 *Statement of Conformity.* It shall not be necessary for the holder of a production certificate to furnish a separate statement of conformity for each of the products produced."

1.35–1 STATEMENT OF CONFORMITY. (*CAA policies which apply to section 1.35.*)

The Statement of Conformity, Form ACA–317,[4] also will not be required for a product to

[4] The reporting requirements of this form are subject to the approval of the Bureau of the Budget in accordance with the Federal Reports Act of 1942.

be exported, provided the product is produced under the terms of a production certificate.

"CAR 1.36 *Data required; prime manufacturer.* The applicant shall submit the data listed in paragraphs (a) through (e) of *this section.*

"(a) A description of the manufacturing layout and production flow,

"(b) A listing and description of any special processes required by the product or products to be manufactured,

"(c) A description of the established quality-control organization, its functions and responsibilities, including an organizational chart showing the lines of authority for quality control and inspection responsibility.

"(d) If the application is for the manufacture of an aircraft, a description of the flight test procedures established by the manufacturer *for the testing of production aircraft* and a copy of the flight test check list to be used, and for other products a description of such tests established by the manufacturer as may be appropriate for the product, and

"(e) A list, by name and address, of any subsidiary manufacturers. (See § 1.37.)"

1.36–1 DATA REQUIRED FROM PRIME MANUFACTURER. (*CAA policies which apply to section 1.36.*)

The production certification data (one copy only) should be submitted with the Application for a Production Certificate, Form ACA–332,[5] to the local factory agent of the CAA. The data should outline the preparation which has been made by the applicant to produce and maintain the conformity and quality of the products for which the production certificate is requested. These data should be limited to those essential to the determination of acceptability of a manufacturer's organization, facilities, and systems, in so far as they are related to fabrication methods, processes, determination of conformity with approved design data, and the maintenance of quality in products involved, including at least the following:

(a) A general description of the manufacturer's layout and production flow. Manufacturer's layout and production flow charts will be accepted provided they indicate the major operations involved.

(b) A listing and description of any special processes required by the design of the product to be produced. The term "special processes" is intended to include any processes requiring specific approval; such as, brazing, soldering, gluing, material treatment, etc. A manufacturer's prepared process specification may be submitted in lieu of the description.

(c) A description of the established quality control organization, its functions and responsibilities, together with an organizational chart indicating line of authority for quality control and inspection responsibilities. These data should contain an outline of methods and procedures established by the manufacturer for the maintenance of quality and standards of acceptability and of implementing forms and records utilized in connection therewith, except as may have been otherwise submitted as a part of the type certification data.

(d) PRODUCTION FLIGHT TESTS OR OPERATIONAL TESTS FOR NEW PRODUCTS. A description of the production flight test procedures, including a copy of the flight check-off list. For products other than aircraft, an outline describing any production operational test to be employed in determining that the finished product conforms with the type design and is functionally satisfactory.

(1) PRODUCTION AIRCRAFT FLIGHT TESTING. Aircraft manufacturers will develop production flight test procedures and a flight test check-off form to be used in connection with the initial flight testing of new production aircraft. This flight test procedure will apply to aircraft which are assembled and flight tested at the manufacturer's plant, and to those which are delivered unassembled to an authorized distributor by whom they will be initially assembled and flight tested.

(i) Data to be submitted in substantiation of the flight test procedure to be established and the acceptability of the production flight test procedure and of the flight test check-off form will be determined by the CAA. Production flight test procedures and flight test check-off forms, having once been approved, will be periodically checked by the CAA to

[5] The reporting requirements of this form have been approved by the Bureau of the Budget in accordance with the Federal Reports Act of 1942.

determine continued acceptability. A production flight test check-off form, inasmuch as this is considered a functional and reliability test, should provide for at least the following:

(*a*) A functional check of each part or system normally operated by the crew while in flight.

(*b*) A functional check of the trim, controllability, and other operational characteristics of the aircraft throughout the normal range of operation while in flight.

(*c*) A check of the operational characteristics of the aircraft on the ground.

(*d*) A determination that all instruments are properly marked, that all readings are within the normal range, and that all gauges and control markings are correct.

(*e*) Any other items peculiar to the aircraft being tested which can best be checked during the ground operation or flight of the aircraft.

(*f*) A record of the date or dates and duration of production flight tests.

(ii) Flight test procedures established at a distributor's plant should be equivalent to those established at the manufacturer's plant, including the use of an identical flight test check-off form. The manufacturer should acquaint authorized distributors with flight test procedures established at the manufacturer's plant and provide them with copies of the approved flight test check-off form. These forms, when prepared by the manufacturer, will be filed as a part of the aircraft inspection record and, when prepared by an authorized distributor, will be returned (copy or original) to the manufacturer and likewise filed.

(iii) Aircraft *manufactured under a type certificate only* should be initially assembled and flight tested at the manufacturer's plant prior to airworthiness certification. These flight tests should be conducted by, or under the supervision of, CAA flight test agents. At the discretion of these agents, this responsibility may, to the extent determined expedient in each case, be delegated to the manufacturer.

(iv) Aircraft *manufactured under a production certificate* will be flight tested periodically by the CAA. The number or percentage of aircraft flight tested by the CAA will be dependent upon the complexity and size of the aircraft, and upon experience gained through type inspection and functional and reliability tests. The manufacturer and the CAA should formulate a working schedule that is mutually suitable for conducting these flight tests.

(v) Aircraft which have been flight tested by the manufacturer (including all aircraft manufactured under a type certificate only), when shipped to and reassembled by an authorized distributor, should be given an abbreviated functional flight test to determine that the engine or engines, controls, systems, etc., are operating satisfactorily.

(vi) To facilitate compliance with provisions of section 43.10 (b), and in order that the production flight tests may be conducted prior to the initial issuance of individual airworthiness certificates, the following entry will be made on the reverse side of the Dealers' Aircraft Registration Certificates, Form ACA–1707,[6] issued to manufacturers and authorized distributors:

"In accordance with the provisions of section 43.10 (b), special authority is herewith issued to (list certificate holder) to conduct production flight tests of new aircraft."

(vii) The special authorization on the reverse side of the dealer's aircraft registration certificate, as discussed above, is provided for the convenience of the operator and has no connection with the issuance, validity, or continuation of the dealer's aircraft registration certificate. This entry is normally accomplished by the agent having responsibility for CAA activities at the plant or agency to which the dealer's registration certificate is issued.

(viii) Aircraft flight tested in accordance with the foregoing which are intended for U. S. registration and certification should display the appropriate U. S. identification markings in accordance with related regulations and instructions.

(ix) New aircraft intended for export should display the foreign identification markings assigned during production flight testing. If these markings are not available, the aircraft may display temporarily assigned U. S. identification markings.

[6] The reporting requirements of this form are subject to the approval of the Bureau of the Budget in accordance with the Federal Reports Act of 1942.

(x) Under the following conditions, aircraft intended for export may be flight tested without displaying identification markings, provided these flights are confined to a radius of twenty miles of the manufacturer's base, and provided prior notices of such flights are transmitted to the local, State, or CAA authorities responsible for the enforcement of flight regulations:

(*a*) When foreign identification markings have been requested for aircraft to be delivered via flyaway, but not received prior to the performance of the flight test, or

(*b*) When foreign identification markings are not available and the aircraft is to be disassembled and crated for shipment upon completion of the production flight test.

(2) LOGGING OF PRODUCTION AIRCRAFT FLIGHT TEST TIME. Operating time, accumulated during the flight testing of new production aircraft manufactured under a type or a type and production certificate, should be construed as a part of the inspection and quality control provided for in Part 1. Accordingly, this flight test time need not be made a part of the aircraft or aircraft engine logbooks or historical records, but will be recorded on the flight test check-off form. This policy does not apply to time accumulated during accelerated service flight testing of prototype or modified aircraft. Once an aircraft is certificated, all subsequent flight time should be appropriately recorded in accordance with section 43.23.

(3) STANDARDIZED EMPTY WEIGHT AND C. G. FOR PRODUCTION AIRCRAFT. The following is intended to provide a procedure which will permit manufacturers of aircraft, as described below, to establish an average empty weight and empty C. G., thus avoiding the necessity of weighing each aircraft. This procedure may be applied to newly manufactured aircraft (except transport category aircraft) which are produced under the terms of a production certificate.

(i) Manufacturers who are interested in establishing an average empty weight and empty C. G., in lieu of actually weighing each aircraft, should prepare a detailed proposal regarding the procedure to be followed. This material will be furnished to the local aviation safety agent and, with his comments and recommendations, will be forwarded to the Aircraft Engineering Branch for coordination and approval. Any proposal which will provide an accurate determination of average empty weight and C. G. may be considered acceptable.

(ii) The following example outlines an acceptable method for effecting this system:

(*a*) Actually weigh and determine empty C. G. of five to ten aircraft of a particular model, which have relatively identical equipment installed, as a means of establishing an average empty weight and empty C. G.

(*b*) Subsequently, with respect to aircraft of the same model which have relatively identical equipment installed, weigh an individual aircraft at regular intervals; e. g., each tenth aircraft, for the purpose of determining continued accuracy of the initial empty weight and empty C. G. established.

(*c*) If the spot checking, as described in the preceding paragraph, indicates a variation in empty weight which is in excess of 1 percent of the initially established weight, or a variation in the empty C. G. which exceeds ½ percent of the MAC, a new average weight should be established in accordance with procedures followed in establishing the initial average empty weight and C. G. conditions.

(iii) Inasmuch as a weight and balance report is required in connection with each aircraft presented for certification, these reports may be computed for aircraft which are not actually weighed. Such reports should be marked "computed" for those aircraft which are not actually weighed, and all other reports should be marked "actual."

(4) ENGINES. Aircraft engines produced under the terms of a production certificate should be subjected to a satisfactory test run consisting of a break-in run which should include the determination of each engine's fuel and oil consumption and maximum power characteristics. This test may be conducted with

the engine mounted on a torque stand or on a fixed stand with a calibrated test club or propeller. Sufficient internal examination of each engine should be accomplished to reasonably ascertain that no unsafe conditions exist.

(5) PROPELLERS AND APPLIANCES. The necessity for functional test of propellers and other products will depend upon the nature of the product.

(e) The list of subsidiary manufacturers need not include the suppliers of standard parts and materials.

"CAR 1.37 *Data required; subsidiary manufacturer.* Where found necessary by the Administrator, a subsidiary manufacturer shall submit the data prescribed by paragraphs (a), (b), and (c) of § 1.36."

1.37–1 DATA REQUIRED FROM SUBSIDIARY MANUFACTURERS. ***(CAA interpretations which apply to section 1.37.)***

A subsidiary manufacturer who contracts with the prime manufacturer to produce and supply to the prime manufacturer, major assemblies and components which are manufactured in conformity with the prime manufacturer's approved drawings, may be required to submit the data prescribed by section 1.36 (a), (b), and (c). This information should be submitted through the prime manufacturer.

Data required of subcontractors by section 1.37 are intended to assist the manufacturer in obtaining approval of major components or parts which, by reason of the nature of the article, cannot be readily inspected after delivery to the prime manufacturer's plant. For example, a complete wing, nacelle or other such assembly, by reason of the covering, could not be properly inspected for conformity and quality of workmanship. The prime manufacturer will furnish the CAA with complete information regarding the type of quality control which is to be maintained at the subcontractor's plant. At the request of the prime manufacturer, and when the prime manufacturer has so advised the subcontractor, the CAA will inspect the subcontractor's facilities and, if they are found acceptable, will grant the same privileges regarding acceptance of items manufactured for the prime contractor as though they were manufactured in the prime contractor's plant. Acceptance of subcontractors' quality control procedures does not relieve the prime contractor of his responsibility for the over-all conformity and airworthiness of the part or assembly. Periodic visits will be made to the subcontractor's plant by CAA personnel to determine that quality and conformity are being maintained in the manner originally approved. Submission of data by subsidiary manufacturers is optional with the prime manufacturer and subsidiary manufacturer. However, if these data are not furnished, parts and assemblies must be subjected to a complete inspection for conformity and quality at the prime manufacturer's plant, or arrangements must be made for suitable inspection at the subsidiary manufacturer's plant by the prime manufacturer's inspection personnel and, as required, by CAA personnel.

"CAR 1.38 *Modification of required data.* The holder of a production certificate shall immediately notify the Administrator in writing of any changes affecting the data required by section 1.36 which may alter the conformity or quality control of the product being manufactured."

1.38–1 MODIFICATION OF REQUIRED DATA. ***(CAA policies which apply to section 1.38.)***

Changes to a manufacturer's organization, production facilities, systems, processes, or quality control organization which would make production certification data initially submitted no longer applicable should be promptly directed to the attention of the CAA by means of revised pages or supplementary reports or data covering these changes.

"CAR 1.39 *Multiple products.* The Administrator may authorize more than one type certificated product to be manufactured under the terms of one production certificate provided that the products have similar production characteristics."

1.39–1 MULTIPLE PRODUCTS. ***(CAA policies which apply to section 1.39.)***

More than one airplane type may be manufactured under the same production certificate, provided the types of construction and processes are similar. However, two basically different products such as an airplane and helicopter or an airplane and an engine will not be included under one production certificate. Sep-

arate production certificates will be issued for dissimilar products.

"CAR 1.40 *Production limitation record.* A production limitation record shall be issued as part of a production certificate. The record shall list the type certificate of every product which the applicant is authorized to manufacture under the terms of a production certificate. Where different models of a basic type approved under the same type certificate number require different fabrication methods and processes, the Administrator may list the model designation of the product for which authorization is given, as well as the type certificate number, on the production limitation record."

1.40–1 PRODUCTION LIMITATION RECORD. ***(CAA policies which apply to section 1.40.)***

The production limitation record is actually page 2 of the production certificate. Therefore, the Production Certificate, Form ACA–333, and the Production Limitation Record, Form ACA–333a, should always be displayed together. Type certificate number(s) covering products fabricated in conformity with the type design data, and approved for production under the terms of the production certificate, are reflected only on the production limitation record. Revisions to the production certificate for the purpose of adding or deleting a type certificate are accomplished by revising the production limitation record only. This policy has been adopted inasmuch as the aircraft, engine, propeller, or appliance specification, under the heading "Production Basis," will indicate those models of an aircraft, engine, propeller, etc., which are eligible for production under a production certificate. Conversely, those models which are not eligible for production under a production certificate will likewise be listed on the specification and such listings will be accompanied by a note stipulating that a CAA representative must perform a detailed inspection for workmanship, materials, and conformity with the approved technical data prior to approval, and, in the case of an aircraft, prior to certification.

"CAR 1.41 *Modification of the production limitation record.* The holder of a production certificate desiring the addition of a type certificate and/or model to the production certificate shall submit an application therefor upon a form and in a manner prescribed by the Administrator. The applicant shall comply with the applicable requirements of §§ 1.32 through 1.36 and 1.38."

1.41–1 MODIFYING A PRODUCTION LIMITATION RECORD. ***(CAA policies which apply to section 1.41.)***

The holder of a production certificate may obtain the addition of a new type certificate number to the production limitation record in accordance with the procedures described in paragraph (a) hereunder. Normally, a new type certificate number is assigned when a manufacturer has applied for a type certificate for a new type design which is not related to a previously type certificated design. When a manufacturer applies for a type certificate for a new model which is closely related to a previously type certificated design, the new model designation may be merely added to the previous type certificate. In such cases, it will not be necessary to amend the production limitation record; however, if the manufacturer desires to obtain an extension of his production certificate privileges to such new model, he should notify the CAA in accordance with the procedures described in paragraph (b) hereunder. When a manufacturer makes a change in a previously type certificated design, but does not make a new application for type certificate, no action is required with respect to the production limitation record, and any necessary changes in the production certification data should be handled in accordance with section 1.38.

(a) ADDITION OF NEW TYPE CERTIFICATE NUMBER TO A PRODUCTION LIMITATION RECORD. To obtain the addition of a new type certificate number to a production limitation record:

(1) The manufacturer should submit an Application for a Production Certificate, Form ACA–332,[7] in duplicate. This application should be accompanied by a description of any special processes or fabrication methods, not

[7] The reporting requirements of this form have been approved by the Bureau of the Budget in accordance with the Federal Reports Act of 1942.

previously reported, which are pertinent to products covered by the new type certificate.

(2) A Manufacturing Inspection Authorization, Form ACA–313, will be issued by the appropriate CAA office.

(3) A Manufacturing Inspection Report, Form ACA–314, will be prepared by the local aviation safety agent with respect to the product covered by the new type certificate. This report will be executed only with respect to those items, processes, methods, or procedures not previously reported upon, or at variance with those previously reported upon. In such cases, an entry will be made under "Remarks" to the effect that those items not checked off were covered by previous reports.

The regional office of the CAA, upon receipt of a satisfactory application, Form ACA–332,[8] and an approved Manufacturing Inspection Report, Form ACA–314, will issue a superseding production limitation record which will include the new type certificate number and the date of issuance thereof. The original of the superseding production limitation record will be forwarded to the manufacturer with a request that the superseded production limitation record be immediately returned for cancellation and file.

The manufacturer, by letter, may request the deletion of one or more type certificates from a production limitation record, if he so desires. In such cases, a revised production limitation record reflecting these changes will be issued by the CAA and forwarded to the manufacturer with a request that the superseded production limitation record be immediately returned for cancellation and file.

(b) EXTENSION OF PRODUCTION CERTIFICATE PRIVILEGES TO A NEW MODEL LISTED ON A PREVIOUS TYPE CERTIFICATE. The holder of a production certificate should notify the CAA that production certification privileges will be desired with respect to a new model of a product by appropriately indicating this fact upon the Application for a Type Certificate, Form ACA–312.[8] On the assumption that the new model will be type certificated (granted type approval) under the type certificate number covering the basic model, the CAA, by reason of the above-mentioned note on the Form ACA–312,[8] will indicate on the Type Inspection Authorization, Form ACA–316, that the manufacturer has requested that production certification privileges be extended to cover the product which is being presented for type approval when such type approval has been issued. The local aviation safety factory agent, upon receipt of a Type Inspection Authorization indicating that the manufacturer desires production certification privileges, while conducting or witnessing such inspections and/or tests as may be requested in the type inspection authorization, will also determine whether the manufacturer should be extended production certification privileges with respect to the product in question. The local aviation safety agent, having determined that the manufacturer is entitled to production certification privileges with respect to the modified product, will indicate this fact on page 7 of Part I of the Form ACA–283–3–4b (which is submitted by reason of the receipt of a type inspection authorization), or, at the specific request of the regional office of the CAA, will prepare and submit to the regional office a Manufacturing Inspection Report, Form ACA–314.

The local agent will forward to the regional office with the Form ACA–283–3–4b, or the Form ACA–314, a report or description of any new processes or changes to fabrication methods not previously reported, which he will obtain from the manufacturer.

The regional office, upon receipt of information indicating that the local factory agent has recommended that production certification privileges be extended to cover the modified product, as discussed above, and upon concurrence with the agent's recommendations, will notify the manufacturer, in writing, that production certification privileges have been extended. Two copies of this letter to the manufacturer will be forwarded to the Manufacturing Inspection Branch, Washington.

"CAR 1.42 *Transferability.* A production certificate shall not be transferred."

1.42–1 TRANSFERABILITY. *(CAA policies which apply to section 1.42.)*

A production certificate is not transferable and becomes invalid upon transfer of the con-

[8] The reporting requirements of this form have been approved by the Bureau of the Budget in accordance with the Federal Reports Act of 1942.

trolling interest of the concern, or when the manufacturing facilities are moved from one location to another. In the event the controlling interest of an organization holding a production certificate is transferred, or the manufacturing facilities are physically moved from the location noted on the production certificate, the production certificate should be returned immediately to the Regional Aircraft Engineering Branch for cancellation. Concurrent with the return of the production certificate, application may be made for production certification coverage of future products manufactured under either or both of the conditions outlined in the foregoing.

"CAR 1.43 *Inspection.* A representative of the Administrator shall be permitted to make such inspections as may be necessary to determine compliance with the requirements of the Civil Air Regulations."

1.43–1 INSPECTION BY CAA REPRESENTATIVE. (*CAA policies which apply to section 1.43.*)

Under the terms of a production certificate, a manufacturer is authorized to produce duplicates of his products without detailed inspection by CAA personnel. However, CAA representatives will conduct periodic inspections of the manufacturer's facilities and make such spot inspections of individual products as may be necessary to determine that the manufacturer is continuously complying with related regulations, and that individual products conform with approved type design data.

Manufacturers holding a current production certificate may produce and ship their products without detailed inspection by CAA representatives. This procedure is predicated upon the manufacturer's demonstrated ability to maintain standards whereby conformity, interchangeability, and quality are assured. Major assemblies, components, and boxes of parts will be properly identified by the manufacturer prior to shipment. A manufacturer holding a production certificate may obtain the appointment of individuals in his employ as designated manufacturing inspection representatives. These representatives will be authorized to represent the Civil Aeronautics Administration in determining the compliance of the product with requirements of related Civil Air Regulations, and to issue documents pertinent to domestic and export certification or approval of such products.

"CAR 1.44 *Duration.* A production certificate shall remain in effect until surrendered, suspended, revoked, or a termination date is otherwise established by the Board, or the location of the manufacturing facility is changed."

1.44–1 DURATION. (*CAA policies which apply to section 1.44.*)

(a) SUSPENSION. In case of an emergency; that is, if it appears that a dangerous condition may develop as a result of continued production of a product being manufactured under a production certificate, by reason of unsatisfactory conditions noted or reported, the production certificate may be immediately suspended, in whole or in part, by the Administrator, for a period not to exceed thirty days. The Administrator will immediately give notice of the suspension to the holder of the certificate and will enter upon a hearing. During the pendency of the proceeding the Administrator may further suspend the certificate, in whole or in part, for an additional period not to exceed thirty days.

(b) SURRENDER. Where production under the terms of a production certificate has been indefinitely or permanently discontinued, the manufacturer should surrender the production certificate to the Regional Aircraft Engineering Branch with a request for cancellation. When the cancellation is properly noted in the regional office file, the canceled production certificate, including the production limitation record, with the manufacturer's request for cancellation, should be forwarded to the Washington office of the Manufacturing Inspection Branch.

"CAR 1.45 *Display.* A production certificate shall be prominently displayed in the main office of the factory."

1.45–1 DISPLAY. (*CAA policies which apply to section 1.45.*)

The purpose of section 1.45 is to make the certificates available to representatives of the Administrator in order that they may at any time see that the certificates are current and in order. To facilitate such an examination, it is recommended that production certificates be posted in a conspicuous place in the office of the factory.

AIRCRAFT AND PRODUCT IDENTIFICATION

"CAR 1.50 *Identification.* (a) Each product manufactured under the terms of a type or production certificate shall display permanently such data as may be required to show its identity. The data shall include such of the following items as the Administrator finds appropriate: (1) Manufacturer's name, (2) model designation, (3) manufacturer's serial number (if article is numbered serially), otherwise the date of manufacture, except that articles subject to deterioration as a result of aging (parachutes, parachute flares, etc.), shall bear the date of manufacture in addition to the serial number, if any, (4) type certificate number, (5) production certificate number, (6) capacity or rating."

1.50–1 IDENTIFICATION. ***(CAA policies which apply to section 1.50.)***

The primary purpose of identification data is to furnish information which will readily identify and indicate the approval status of individual products fabricated under the requirements of the Civil Air Regulations. The identification plate attached to products which are manufactured under the terms of a production certificate should list both the type and production certificate numbers. Those type certificated products manufactured without benefit of a production certificate should list the type certificate number.

The "Capacity or Rating" should be indicated in the identification data with respect to products such as engines, and other products for which definite ratings or capacities are established. The display of ratings on aircraft and propellers is not necessary.

After the product has been properly identified by the manufacturer and approved by the Administrator, the identification data required by this section should not be changed or altered without the approval of the CAA, and it should remain with the product to which assigned.

For example, the following should not be changed or altered without CAA approval:

(a) Manufacturer's name.
(b) Model designation.
(c) The manufacturer's serial number.
(d) Date of manufacture when required.
(e) Type Certificate number.
(f) Production Certificate number (if applicable).
(g) Capacity or rating (if applicable).

For requirements concerning identification plates, see the airworthiness part applicable to the particular product involved.

AIRWORTHINESS CERTIFICATES

"CAR 1.60 *Application.* Any U. S. citizen may apply for issuance of an airworthiness certificate for an aircraft provided that he is the registered owner of the aircraft or his agent. The application for an airworthiness certificate shall be made upon a form and in a manner prescribed by the Administrator."

1.60–1 "REGISTERED OWNER." ***(CAA interpretations which apply to section 1.60.)***

The term "registered owner of the aircraft," as used in section 1.60, means the person listed on the official CAA register as the owner of the aircraft. (Regulations of the Administrator, Part 501, sets forth the rules and procedures concerning aircraft registration certificates.)

1.60–2 APPLICATION FORM. ***(CAA rules which apply to section 1.60.)***

Application for an airworthiness certificate shall be made by completing Form ACA–305,[9] Application for Airworthiness Certificate and/or Annual Inspection of an Aircraft, original only, and submitting it to the local CAA Aviation Safety field representative.

(Application forms, Form ACA–305, are available from all CAA regional and district offices, Designated Manufacturing Inspection Representatives, and Designated Aircraft Maintenance Inspectors.)

1.60–3 PROCESSING APPLICATION. ***(CAA policies which apply to section 1.60.)***

(a) APPLICATION REQUIREMENTS. The CAA will not require the applicant for a Certificate of Airworthiness to show legal evidence that he is a U. S. citizen and the owner of the aircraft, nor will his agent be required to furnish such evidence. The certifying statement made upon the application, Form ACA–

[9] The reporting requirements of this form have been approved by the Bureau of the Budget in accordance with the Federal Reports Act of 1942.

305, will be accepted as satisfying the citizenship and ownership requirements of section 1.60.

However, at the time the aircraft is presented for the airworthiness inspection, a current registration certificate executed in the name of the applicant must be displayed in the aircraft. Failure to present a current registration certificate will be considered an incomplete application and cause for rejection of the application. There are three types of registration certificates, any one of which will be considered acceptable for the purpose of indicating that the aircraft is currently registered. The three types of registration certificates acceptable are:

(b) THE PERMANENT TYPE. Part A of Form ACA–500 is the permanent registration certificate. This certificate is the one returned to the registered owner from the Aircraft Records Branch, Washington, D. C. The certificate will have been validated by the Washington office of the CAA and is current as of the date of issue shown on the form.

(c) THE TEMPORARY TYPE. This certificate is the original of Part B of Form ACA–500.[9] This form is completed by the applicant and displayed in the aircraft in accordance with instructions furnished with the form. The duration of this certificate is set forth in item 5 of the certificate.

(d) DEALER'S AIRCRAFT REGISTRATION CERTIFICATE. A current Dealer's Aircraft Registration Certificate, Form ACA–1707,[10] is recognized as a current registration certificate for purpose of making application for an airworthiness certificate. (Dealers' aircraft registration certificates are described and provided for in Regulations of the Administrator, Part 502.)

(e) CAA PROCEDURE. During the course of the inspection, the CAA representative conducting the airworthiness inspection will indicate on the Aircraft Inspection Report, Form ACA–305a, which is forwarded to Washington, the type of registration certificate displayed in the aircraft. This information will be compared with the official registration records in Washington to determine if the applicant is the official registered owner. Discrepancies involving official registration will be brought to the attention of the registered owner by the Washington office.

[9] See footnote on page 18.

[10] The reporting requirements of this form are subject to the approval of the Bureau of the Budget in accordance with the Federal Reports Act of 1942.

1.60–4 AIRWORTHINESS CERTIFICATES. (*CAA policies which apply to section 1.60.*)

Upon satisfactory application, and when the aircraft described in the application is found to conform with the airworthiness requirements specified in other related sections of the Civil Air Regulations, the CAA representative making the airworthiness determination will prepare a Certificate of Airworthiness, Form ACA–1362, or ACA–1362A, and deliver it to the applicant.

The Certificate of Airworthiness will contain the following information: aircraft nationality and registration mark, airworthiness classification, expiration date of certificate, date certificate was issued or renewed, signature of validating CAA representative, and scope of certificate.

"CAR 1.61 *Aircraft categories for which airworthiness certificates are issued.* Airworthiness certificates are issued for aircraft whose type design has been certificated under the normal, utility, acrobatic, or transport categories, for aircraft of the restricted category, and for surplus military aircraft in the limited category. In addition, experimental certificates and special flight permits are issued."

1.61–1 AIRWORTHINESS CERTIFICATE CLASSIFICATIONS. (*CAA policies which apply to section 1.61.*)

For purposes of airworthiness identification and administration, airworthiness certificates are classified as Standard, Limited, Restricted, and Experimental. Aircraft found to conform to the "limited" or "restricted category" requirements will be issued a Limited or Restricted Certificate of Airworthiness, respectively. Aircraft found eligible for certification under the "normal," "utility," "acrobatic," or "transport category" requirements will be issued a Standard Airworthiness Certificate. Experimental airworthiness certificates will be issued for aircraft conforming to the requirements of section 1.74.

"CAR 1.62 *Amendment or modification.* An airworthiness certificate may be amended

or modified only upon application to the Administrator."

1.62–1 CHANGING AIRWORTHINESS CLASSIFICATION. (*CAA policies which apply to section 1.62.*)

Application to amend or modify an airworthiness certificate should be submitted to a CAA representative on Form ACA–305,[11] entitled "Application for Airworthiness Certificate and/or Annual Inspection of an Aircraft." Upon finding the aircraft eligible for the classification of airworthiness specified on the application, the CAA representative will reissue the Certificate of Airworthiness, Form ACA–1362 and/or prescribe changes, if necessary, to the aircraft operating limitations required by section 43.10 (b).

An example of a condition which would require amendment or modification of the Airworthiness Certificate and/or operating limitations is cited below:

An aircraft certificated in the standard classification of airworthiness, to be used for research and development. The experimental installation does not conform to the design requirements for standard certification. Therefore, it would be necessary to have this aircraft certificated in the experimental classification of airworthiness in order to conduct the research and development experiments. The CAA representative would, in this case, also issue the appropriate operating limitations on Form ACA–309.

"CAR 1.63 *Transferability.* An airworthiness certificate shall be transferred with the aircraft.

"CAR 1.64 *Duration.* (a) Unless sooner surrendered, suspended, revoked, or a termination date is otherwise established by the Board, the duration of an airworthiness certificate shall be in accordance with the provisions of subparagraphs (1) through (3) of this paragraph.

"(1) *Experimental aircraft.* An experimental certificate shall remain in effect for one year from the date of issuance or renewal, unless a shorter period is established by the Administrator.

"(2) Aircraft maintained under a continuous maintenance system. An airworthiness certificate issued for an aircraft maintained under an approved continuous maintenance system shall remain in effect without renewal during the period the aircraft is maintained in accordance with such a system.

"(3) Other aircraft. Except as provided in subparagraphs (1) and (2) of this paragraph, airworthiness certificates on other aircraft shall remain in effect for one year after the date of issuance or renewal. The airworthiness certificate shall be renewed upon satisfactory completion of the annual inspection elsewhere required in the Civil Air Regulations.

"(b) The Administrator may, from time to time, reinspect any aircraft or part thereof to see whether it is in an airworthy condition. The owner, operator, or bailee of the aircraft shall make it available for such inspection upon request.

"(c) Upon suspension, revocation, or the general termination by order of the Board of an airworthiness certificate, the owner, operator, or bailee of an aircraft shall, upon request, surrender the certificate to an authorized representative of the Administrator."

1.64–1 DURATION OF AIRWORTHINESS CERTIFICATE. (*CAA policies which apply to section 1.64.*)

All airworthiness certificates, issued after January 15, 1951, will contain an expiration date or will indicate specific conditions under which the airworthiness certificate will expire.

(a) AIR CARRIER AIRCRAFT. Airworthiness certificates issued for air carrier aircraft, being maintained under an approved continuous maintenance system as provided for in Parts 41, 42, or 61, will not contain a specific expiration date but instead a condition under which a certificate is considered to expire automatically.

Small irregular air carrier aircraft not maintained under an approved continuous maintenance system are issued an airworthiness certificate which contains a specific expiration date as outlined in (b) below.

(b) PERSONAL TYPE AIRCRAFT. Standard, restricted, and limited airworthiness

[11] The reporting requirements of this form have been approved by the Bureau of the Budget in accordance with the Federal Reports Act of 1942.

certificates issued, or renewed, for aircraft other than air carrier aircraft being maintained as described in (a) above, will be issued to expire one year from the date of issuance or renewal.

(c) EXPERIMENTAL AIRCRAFT. Experimental airworthiness certificates will be issued to expire on a specific date, or will indicate a condition under which the certificate will automatically expire. The duration of the experimental airworthiness certificate may vary from one flight, to a limited number of operating hours, or days. In any case, the duration will not exceed one year.

It is the policy of the CAA to do everything possible to encourage legitimate experimentation leading to improvement in aircraft whenever this may be done without endangering the lives of persons or property not involved in the experimentation. Since it is recognized that a certain amount of danger to the operator is inherent in all experimental flying, the airworthiness certificates issued for experimental aircraft will contain specific operating conditions and limitations designed to protect the lives and property of persons not involved in the experimentation.

"CAR 1.65 *Display.* An airworthiness certificate shall be carried in the aircraft at all times, and shall be displayed as prescribed by the Administrator."

1.65–1 DISPLAY OF AIRWORTHINESS CERTIFICATE. *(CAA rules which apply to section 1.65.)*

The airworthiness certificate shall be displayed at the cabin or cockpit entrance in such a manner that it is legible to passengers or crew.

"CAR 1.66 *Airworthiness certificates for normal, utility, acrobatic, and transport categories.* Aircraft certificated in the normal, utility, acrobatic, and transports categories may be used for the carriage of persons and property for compensation or hire.

"CAR 1.67 *Airworthiness certificate; requirements for issuance.* The requirements for the issuance of an airworthiness certificate are stated in paragraphs (a) and (b) of this section.

"(a) *Aircraft manufactured under a production certificate.* An applicant for the original issuance of an airworthiness certificate for an aircraft, whose type design was certificated in categories other than the limited category, manufactured under the terms of a production certificate, may be issued such certificate, without further showing. The Administrator may inspect the aircraft to see if it conforms to the type design.

"(b) *Aircraft manufactured under type certificate only.* An applicant for the original issuance of an airworthiness certificate for an aircraft, whose type design was certificated in categories other than the limited category, manufactured under the terms of a type certificate only, shall be issued such certificate upon presentation of a statement of conformity for such aircraft issued by the manufacturer when, upon inspection of the aircraft, the Administrator finds that the aircraft conforms to the type design, and is in a condition for safe operation.

"CAR 1.68 *Airworthiness certificates for restricted category aircraft.* Aircraft certificated in the restricted category shall not be used for the carriage of persons or cargo for compensation or hire. For purposes of this section, crop dusting, seeding, and other similar specialized operations are not considered as the carriage of persons or cargo for compensation or hire. Other special limitations for such aircraft are prescribed under the provisions of Part 8 of the Civil Air Regulations.

"CAR 1.69 *Airworthiness certificates for restricted category aircraft; requirements for issuance.* The requirements for issuance of an airworthiness certificate for an aircraft in the restricted category are as stated in paragraphs (a) and (b) of this section.

"(a) *Aircraft manufactured under a production certificate or type certificate only.* An applicant for the original issuance of an airworthiness certificate for an aircraft in the restricted category, type certificated under the provisions of § 8.10 (a) (1), shall comply with the appropriate provisions of § 1.67.

"(b) *Other aircraft.* An applicant for the issuance of an airworthiness certificate for aircraft of the restricted category other than those referred to in paragraph (a) of this

section, such as surplus military aircraft and modified civil aircraft, may be issued such certificate when he demonstrates compliance with the provisions of subparagraphs (1) through (3) of this paragraph.

"(1) The aircraft has been type certificated under the provisions of § 8.10 (a) (2), or modified under the provisions of § 8.10 (b) of the Civil Air Regulations:

"(2) The aircraft has been inspected by the Administrator and found by him to be in a good state of preservation and repair and in condition for safe operation; and

"(3) The Administrator has prescribed operating limitations in accordance with Part 8 of the Civil Air Regulations."

1.69–1 ISSUANCE OF RESTRICTED AIRWORTHINESS CERTIFICATES. ***(CAA policies which apply to section 1.69.)***

CAA policies concerning "restricted category" airworthiness certificates are contained in Part 8. (The manual for Part 8 may be procured from the Superintendent of Documents, Government Printing Office, Washington 25, D. C., for 60 cents.)

"CAR 1.70 ***Multiple airworthiness certification.*** **Multiple airworthiness certification shall conform to the provisions of paragraphs (a) and (b) of this section.**

"(a) An aircraft shall be issued an airworthiness certificate in the restricted category and in any one or more of the other airworthiness categories prescribed by the Civil Air Regulatons, if the applicant shows compliance with the requirements for each category when the aircraft is in the configuration for that category and if the aircraft can be converted from one category to another by removal or addition of equipment by simple mechanical means.

"(b) Any aircraft certificated in the restricted and any other category shall be inspected and approved by an authorized representative of the Administrator, or by a certificated mechanic with an appropriate airframe rating, to determine airworthiness each time the aircraft is converted from the restricted category to another category for the carriage of passengers for compensation or hire, unless the Administrator finds this unnecesary for safety in a particular case."

1.70–1 ISSUANCE OF MULTIPLE AIRWORTHINESS CERTIFICATES. ***(CAA policies which apply to section 1.70.)***

CAA policies concerning multiple airworthiness certificates are contained in Part 8. (See section 1.69–1 for procurement of the manual for Part 8.)

"CAR 1.71 ***Airworthiness certificate for limited category aircraft.*** **Airworthiness certificates in the limited category are issued for surplus military aircraft type certificated under Part 9 of the Civil Air Regulations. Aircraft in the limited category may not be used for the carriage of persons or property for compensation or hire."**

1.71–1 ISSUANCE OF LIMITED AIRWORTHINESS CERTIFICATES. ***(CAA policies which apply to section 1.71.)***

(a) AIRCRAFT MODELS ISSUED A LIMITED TYPE CERTIFICATE.

Aircraft manufacturer	Models eligible	Limited aircraft specification No.
Boeing	B–17F and B–17G (Flying Fortress).	AL–1.
North American.	B–25G, B–25H and B–25J (Mitchell).	AL–2.
Douglas	A–26B and A–26C (Invader).	AL–3.
Douglas	A–24B (Navy SBD–5) (Dauntless).	AL–4.
Consolidated-Vultee.	PB2Y–3, PB2Y–3R, PB2Y–5, PB2Y–5R, PB2Y–5Z (Coronado).	AL–5.
Consolidated	LB–30	AL–6.
Sikorsky	R–4B Helicopter	AL–7.
Grumman	TBF–1, TBF–1C, TBM–1, TBM–1C, TBM–3, TBM–3E (Avenger).	AL–8.
Douglas	A–20B, A–20C, A–20G, A–20H, and A–20J (Havoc).	AL–9.
Lockheed	P–38E, P–38J, P–38L, P–38M, F–5E, F–5F, and F–5G (Lightning).	AL–10.
North American.	P–51C, P–51D, and P–51K (Mustang).	AL–11.

Aircraft manufacturer	Models eligible	Limited aircraft specification No.
Beech	AT–10, AT–10BH, AT–10GL, and AT–10GF (Wichita).	AL–12.
Lockheed	B–34, PV–1, and PV–2 (Ventura).	AL–13.
Northrop	P–16, P–61A, and P–61B (Black Widow).	AL–14.
North American.	A–36A (Mustang)	AL–15.
Curtiss	0–52	AL–16.
Grumman	J2F–3, J2F–4, J2F–5, and J2F–6 (Duck).	AL–17.
Curtiss-Wright.	P–40N, P–40L (Warhawk).	AL–18.
Sikorsky	R–5A Helicopter	AL–19.
Martin	PBM–5 (Mariner)	AL–20.
Bell	P–63C and P–63E (Kingcobra).	AL–21.
North American.	BC–1	AL–22.
Grumman	F8F–1 (Bearcat)	AL–23.
Chance-Vought.	OS2U–1, OS2U–2, and OS2U–3 (Kingfisher).	AL–24.
Grumman	FM–2 (Wildcat)	AL–25.
Stinson	L–1, L–1A, L–1B, L–1C, L–1D, L–1E, and L–1F (Vigilant).	AL–26.
North American.	BT–9, BT–9A, BT–9B, and BT–9C (Yale).	AL–27.
Culver	PQ–14A, PQ–14B, and TD2C–1.	AL–28.
Sikorsky Helicopter	R–6A and HOS–1	AL–29.
Consolidated	C–87A (Liberator Express).	AL–30.
Curtiss	AT–9 and AT–9A (Jeep).	AL–31.
North American.	BT–14 (Yale)	AL–32.

(b) APPLICATION PROCEDURE FOR AN ORIGINAL LIMITED AIRWORTHINESS CERTIFICATE. The following procedure should be followed by an applicant for a Limited Airworthiness Certificate.

(1) Establish that the aircraft in question is one of the models or series that have been issued a Limited Type Certificate. (See section 1.71–1 (a) for listing of aircraft issued a "limited category" type certificate.)

(2) Determine that the aircraft configuration conforms to the requirements set forth in the pertinent "limited category" aircraft specification.

(3) Present evidence that the periodic inspection has been accomplished by an appropriately rated mechanic immediately prior to submitting the application. The scope of a periodic inspection is described on the reverse of Periodic Aircraft Inspection Report, Form ACA–319,[12] (revised 11–49).

(4) Accomplish a flight test for the purpose of checking the proper functions of the powerplant, instruments and controls of airframe and powerplant.

(5) Present logbooks for the aircraft. The logbooks should show the results of the flight test and be signed by the pilot making the flight test. The entry should indicate that the aircraft performs normally and is considered airworthy.

(6) Present any information or technical orders that the CAA representative deems necessary to establish airworthiness compliance.

(7) Present a properly executed application for a Limited Airworthiness Certificate. Application for a Limited Airworthiness Certificate is made on Form ACA–305.[12] (See section 1.60–2 for application procedure.)

(8) Present with the application a "limited category" aircraft specification for the particular model shown on the application. "Limited category" aircraft specifications are available free of charge from the CAA regional offices, or the CAA Office of Aviation Information, Washington 25, D. C.

The applicant should discuss the "limited category" aircraft certification requirements with the local CAA representative prior to formally submitting the aircraft for inspection and certification. This procedure is not mandatory; however, it will usually expedite final approval since the CAA representative will be able to instruct the applicant concerning the requirements for his particular aircraft.

"CAR 1.72 *Airworthiness certificate for limited category aircraft; requirements for reissuance.* An applicant for an airworthi-

[12] The reporting requirements of this form have been approved by the Bureau of the Budget in accordance with the Federal Reports Act of 1942.

ness certificate for an aircraft in the limited category shall show that the aircraft has been previously type certificated in the limited category, and that the aircraft complies fully with the requirements of Part 9 of the Civil Air Regulations."

1.72–1 PROCEDURE TO BE FOLLOWED FOR RECERTIFICATION IN THE "LIMITED CATEGORY." ***(CAA policies which apply to section 1.72.)***

Aircraft previously certificated in the "limited category" and subsequently certificated in the "restricted" or "experimental" classification of airworthiness are eligible for recertification in the "limited" classification of airworthiness; provided, the aircraft is restored to the original level of airworthiness and is in a good state of preservation and repair, and in condition for safe operation. Application for recertification should be made in the same manner as outlined in section 1.71–1 (b).

"CAR 1.73 ***Experimental certificates.*** **Experimental certificates are issued for amateur-built aircraft and for aircraft which are to be used for experiment, for exhibition, for air racing, and to show compliance with Civil Air Regulations for the issuance of type certificates and related purposes."**

1.73–1 EXPERIMENTAL AIRWORTHINESS CERTIFICATION. ***(CAA policies which apply to section 1.73.)***

(a) TYPE OF OPERATIONS. Experimental airworthiness certificates are issued for the following, and similar types of operations: research and development; flight testing leading to type certificates; testing of new installations such as powerplants, propellers, controls, electronic equipment, etc., racing and exhibition flights and amateur-built aircraft.

(b) EXPERIMENTAL MILITARY TYPE AIRCRAFT. Aircraft built on a military contract and identified by military aircraft identification marks are considered public aircraft and do not require issuance of airworthiness certificates. However, aircraft of military design built independently by manufacturers with the intention of demonstrating to prospective military purchasers, and not having military identification, will be required to obtain an Experimental Airworthiness Certificate inasmuch as such aircraft would be considered civil aircraft.

(c) AMATEUR-BUILT AIRCRAFT. Amateur-built aircraft will be eligible for an Experimental Airworthiness Certificate when the applicant presents satisfactory evidence that the aircraft was designed and/or fabricated by an individual or group of individuals, the project having been undertaken for educational or recreation purposes and the CAA finds that the aircraft complies with the amateur-built aircraft requirements set forth in section 1.74–3.

"CAR 1.74 ***Experimental certificates; requirements for issuance.*** **The requirements for the issuance of experimental certificates are as stated in paragraphs (a) and (b) of this section.**

"(a) In applying for an experimental certificate the applicant shall submit:

"(1) A statement upon a form and in a manner prescribed by the Administrator setting forth the purpose for which the aircraft is to be used.

"(2) Sufficient data, such as photographs, to identify the aircraft, and,

"(3) Upon inspection of the aircraft, any pertinent information found necessary by the Administrator to safeguard the general public.

"(b) The Administrator shall prescribe appropriate operating restrictions for the use of experimental aircraft. Such restrictions shall include the prohibition of carrying persons or property for compensation or hire."

1.74–1 REQUIREMENTS FOR THE ISSUANCE OF EXPERIMENTAL AIRWORTHINESS CERTIFICATES. ***(CAA rules which apply to section 1.74 (a).)***

In addition to the information required to be submitted on application Form ACA–305,[13] the applicant shall indicate on a separate sheet of paper:

(a) The purpose of the experiment.

(b) The estimated time or number of flights required to conduct the experiment.

(c) The areas over which it is desired to conduct the experiment.

[13] The reporting requirements of this form have been approved by the Bureau of the Budget in accordance with the Federal Reports Act of 1942.

(d) A three-view drawing of the aircraft specifying only the external dimensions. (Three-view dimensioned photographs will be acceptable in lieu of the drawings. This information need not be submitted for any "experimental" aircraft converted from a basic approved type provided the external configuration has not appreciably changed.)

1.74–2 ADDITIONAL INFORMATION. ***(CAA policies which apply to section 1.74 (a).)***

The applicant may be called upon to submit additional information during the airworthiness inspection conducted by the CAA representative. For example, the CAA representative might request the applicant to furnish information concerning a particular construction technique used to fabricate the aircraft or information as to the type of material or gauge of tubing. The purpose of such requests by the CAA representative would be to help determine the general airworthiness of the aircraft and to establish operation limitations or restrictions to safeguard the general public.

1.74–3 CERTIFICATION OF AMATEUR-BUILT AIRCRAFT. ***(CAA policies which apply to section 1.74.)***

The following policies will apply to the certification and operation of aircraft of amateur design and construction designed and built by educational institutions and individuals without complying with all the requirements of "standard" aircraft:

(a) SCOPE. While amateur-built aircraft are issued "experimental" airworthiness certificates, the airworthiness requirements for this type of aircraft are of greater scope than those for other types of "experimental" aircraft. The reason is that after the aircraft has completed the flights specified in paragraph (g) and paragraph (h) of this section, the aircraft operation limitations, upon application, may be modified to permit the carriage of nonrevenue passengers. In addition, the area restrictions normally prescribed for "experimental" aircraft may be modified to authorize extended flights.

(b) DESIGN AND CONSTRUCTION, POWERPLANT AND EQUIPMENT. Amateur-built aircraft should not have any apparent unsatisfactory features of design and construction.

The following guide to design and construction should be followed by an applicant if he intends to apply for an amateur-built aircraft Experimental Airworthiness Certificate:

(1) Approved components such as engines, propellers, wheels, and similar items should be used wherever possible. Structural components of other aircraft may be used; however, it is not intended that this provision be used to avoid obtaining approval of major alterations to aircraft previously certificated in another category.

(2) Protrusions, knobs, sharp corners, and other objects likely to cause serious injury to the pilot or passengers in the event of a minor crash should be reduced to a minimum. Where removal is impractical, consideration should be given to use of padding.

(3) Instruments and equipment as required by section 43.30 (a) should be installed. Safety belts should be installed for each seat.

(4) Suitable means, consistent with the size and complexity of the aircraft, should be provided to reduce the hazard of fire. A fire wall isolating the engine compartment from the remainder of the aircraft should be provided.

(5) Any engine or propeller may be used, provided no adverse characteristics of the engine, propeller, or engine-propeller combination are evident or known to the Administrator.

(6) The complete powerplant installation, including the propeller, as installed in the aircraft should satisfactorily undergo at least one hour of ground operation from idling to full throttle power prior to the first flight. The applicant may use any time interval he desires at the various speeds he selects.

(7) Only fuel of a grade which will eliminate destructive detonation and minimize the possibility of vapor lock should be used.

(8) Suitable means should be provided to minimize the possibility of carburetor ice.

(9) An identification plate containing at least the following should be displayed in the cabin or cockpit:

The name and address of the builder.
The model designation.
The serial number.
The date of manufacture.

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(c) ESSENTIAL DATA. In addition to the information furnished on application, Form ACA–305, the following information should be submitted with the application:

(1) Horsepower rating of engine and propeller.

(2) Empty weight and maximum weight at which the aircraft will be operated.

(3) Number of seats installed and their arrangement with respect to each other.

(4) Whether single or dual control.

(5) Fuel and oil capacities.

(6) Maximum speed at which the applicant expects to operate the aircraft.

(7) A statement as to the criteria (any regulations, design data, or other information) used as a basis for the design.

(d) EXAMINATION AND INSPECTION. As part of the certification procedure the aircraft will be subjected to examination and general inspection for airworthiness by an authorized CAA representative. Compliance with specific design requirements contained in paragraph (b) of this section, as well as good aeronautical practice will be determined by means of this inspection and examination. Any apparent unairworthy feature, workmanship or device disclosed by the inspection will be repaired, reworked, or otherwise be changed to be acceptable to the CAA prior to certification as an amateur-built aircraft.

(e) INITIAL RESTRICTIONS. Upon satisfactory completion of all necessary inspections and testing on the ground, the CAA representative will issue an amateur-built aircraft "experimental" airworthiness certificate. Initially, the aircraft operating limitations of all amateur-built aircraft will contain appropriate restrictions as follows:

(1) Only day VFR flight will be authorized.

(2) The permissible flight area will be restricted to minimize any hazard to the general public. In no case will the initial permissible flight area exceed a 25-mile radius from applicant's base. Flights over thickly populated areas will be prohibited.

(3) Occupants of the aircraft will be limited to essential crew members, and, except in single place aircraft, the cabin or cockpit will be placarded, "Passengers Prohibited," in such a manner and location as to be visible from all seats.

(4) The aircraft will not be used for the carriage of cargo nor in connection with any business or employment.

(5) Such additional restrictions as the Administrator may deem necessary in the interest of safety.

(f) MODIFIED RESTRICTIONS. Upon satisfactory completion of the flight experience requirements outlined in paragraph (g) of this section, and the flight test demonstration outlined in paragraph (h), the flight operation restrictions applied at the time of initial certification may be amended as follows:

(1) Acrobatics may not be performed while carrying passengers.

(2) The restriction regarding flight areas may be removed.

(3) Passengers or cargo may not be carried for compensation or hire.

The placard "Passengers Prohibited" may be removed and the following substituted:

"Passenger Warning—this aircraft is amateur-built and does not comply with the Federal Safety Regulations for 'standard' aircraft."

(g) FLIGHT EXPERIENCE. Prior to conducting the flight demonstration provided in paragraph (h) of this section, and subsequent to modification of the operating restrictions as provided for in paragraph (f), the applicant should submit evidence that the following flight experience has been accumulated on the aircraft.

(1) The aircraft should have been flown at least 50 hours when a type certificated engine is installed, or 75 hours when an uncertificated engine is used.

(2) When application is made for the modification of the operation restrictions, the applicant should submit a log of the aircraft flight history, containing at least the following information:

(i) The duration of each individual flight counted toward the flight time of (1) above.

(ii) A statement as to the purpose of each flight (test, pleasure, or proficiency).

(iii) Number of landings made.

(iv) A full description of any mishaps however minor, or any experiences not entirely normal that occur during the flight experience period.

The pertinent portion of the log should be certified by the signature of the applicant and by the signature of the pilot or pilots, other than the applicant that flew the aircraft during the flight experience period.

(h) FLIGHT TEST DEMONSTRATION. Upon satisfactory completion of the flight experience required in paragraph (g) of this section, the applicant may apply for the modified restrictions provided for in paragraph (f) of this section. Application should be made in writing to the local CAA Aviation Safety District Office. An aviation safety agent will reexamine the aircraft and the flight experience record and upon finding them satisfactory will witness the flight test demonstration. The flight test will be conducted by a certificated pilot holding at least a private pilot's rating. The flight test will be of such scope as to demonstrate that the aircraft performance is adequate for such operations with respect to take-off, climb, and landing at maximum and minimum weights, for which the aircraft is to be certificated. The aircraft will be demonstrated to be satisfactorily controllable and reasonably maneuverable during taxiing, take-off, climb, level flight, dive and landing, with or without power. Adequate provisions should be made for emergency egress and use of parachutes by the crew during the flight test.

"CAR 1.75 *Special flight permits.* A special flight permit may be issued for an aircraft which may not currently meet applicable airworthiness requirements, but which is capable of safe flight, for the purpose of permitting the aircraft to be flown to a base where repairs or alterations are to be made or to permit the delivery or export of the aircraft."

1.75–1 SPECIAL FLIGHT PERMITS. *(CAA interpretations which apply to section 1.75.)*

(a) GENERAL. Section 43.10 (a) states in part that "No aircraft, except foreign aircraft authorized by the Administrator to be flown in the United States, shall be operated unless an appropriate and valid airworthiness certificate or special flight authorization and a registration certificate issued to the owner of the aircraft are carried in the aircraft * * *."

"Special flight authorization," mentioned above, is interpreted to mean the special flight permit described in this section. Special flight permits are issued for only two purposes: the first and primary purpose is to permit aircraft not fully complying with the established airworthiness requirements to be flown to bases where repairs or alterations may be made; the second purpose is to permit "flyaway" delivery or flights to points of export of aircraft which are airworthy but not eligible for a U. S. Certificate of Airworthiness. For example, an aircraft purchased by a person other than an American citizen would not be eligible for a U. S. Certificate of Airworthiness due to the fact that a current U. S. Registration Certificate is a prerequisite to obtaining an airworthiness certificate, and only a U. S. citizen, who can present proof of ownership, may obtain a current Aircraft Registration Certificate.

"CAR 1.76 *Special flight permits; requirements for issuance.* The requirements for the issuance of special flight permits are as stated in paragraphs (a) and (b) of this section.

"(a) Where found necessary by the Administrator, an applicant for a special flight permit shall submit a statement in a form approved by the Administrator indicating the purpose of the flight, the proposed itinerary, the duration of authorization requested, the person to be on board the aircraft, the particulars, if any, in which the aircraft does not comply fully with the applicable airworthiness requirements, and the restrictions, if any, deemed necessary for safe operation of the aircraft.

"(b) The Administrator shall accomplish, or shall require the applicant to accomplish, such appropriate inspections or tests as the Administrator may deem necessary in the interest of safety.

"(c) Nothing in paragraphs (a) and (b) of this section shall prevent the issuance to an air carrier by the Administrator of a general authorization to conduct ferry flights for specified purposes as provided in those paragraphs, under such terms and conditions as may from time to time be prescribed by the Administrator."

1.76–1 APPLICATION FOR PERMIT. *(CAA rules which apply to section 1.76.)*

(a) PERSONS WHO MAY MAKE APPLICATION. The registered aircraft owner or his agent shall make application for a special flight permit.

(b) APPLICATION FORM. Application shall be made by completing in duplicate Form ACA–1779 [14] entitled "Application and Authorization for Ferry Permit," and submitting it to an authorized CAA Aviation Safety representative.

(Application forms are available at all CAA regional and Aviation Safety District Offices and from designated CAA representatives. The application form consists of two parts: the first part is completed by the applicant and furnishes a description of the aircraft, and the proposed flight; the second part is completed by the CAA representative, and is the authority to conduct the flight. This part shall be prepared to contain the conditions and limitations under which the flight is to be conducted.)

1.76–2 AIRWORTHINESS. (*CAA policies which apply to section 1.76.*)

While the aircraft may not be eligible for a Certificate of Airworthiness, it must be found safe for the flight described on the application prior to commencing the flight. The CAA representative may make this determination prior to issuing the authorization, or he may require a pre-flight inspection to be conducted by a certificated mechanic in order to determine that the aircraft is safe for the flight authorized.

1.76–3 FLIGHT RESTRICTIONS. (*CAA policies which apply to section 1.76.*)

The following flight restrictions will be prescribed for all aircraft to be operated under a special flight permit:

(a) The carriage of persons other than crew members will be prohibited.

(b) Weather minimums under which the flight may be conducted will be established.

(c) The duration of the authorization will be shown.

(d) The purpose of the flight will be indicated.

(e) Special area restrictions will be listed, if applicable.

(f) Pre-flight inspection requirements, if any, will be listed.

(g) The origin, destination, and proposed itinerary, taking into consideration reasonable deviations necessitated by weather or other circumstances beyond the control of the operator, will be indicated.

AIRCRAFT NATIONALITY AND REGISTRATION MARKS

"CAR 1.100 *General.* The identification of each aircraft shall be marked, and the markings shall be displayed as required in §§ 1.101 through 1.107. No design, mark, or symbol which modifies or confuses the identification marks shall be placed on an aircraft, except with the approval of the Administrator.

"CAR 1.101 *Display of identification marks.* Identification marks shall be displayed in accordance with the provisions in paragraphs (a) and (b) of this section.

"(a) Aircraft registered for the first time after December 31, 1948, shall display identification marks consisting of the Roman capital letter "N", denoting United States registration, followed by the registration number. Other aircraft which display identification marks containing an airworthiness symbol "C", "R", "X", or "L", and which are operated solely within the United States may display such identification marks until the first time such aircraft are recovered or refinished to an extent necessitating the reapplication of the identification mark. Thereafter, such aircraft, and after December 31, 1950, all aircraft of United States registry operated outside of the United States, shall display identification marks consisting of the Roman capital letter "N", denoting United States registration, followed by the registration number.

"(b) When an identification mark including only the Roman capital letter "N" and the registration number is utilized, limited and restricted category aircraft and experimental aircraft shall display the words 'limited,' 'restricted,' or 'experimental,' respectively, near each entrance to the cabin or cockpit of the aircraft. These markings

[14] The reporting requirements of this form have been approved by the Bureau of the Budget in accordance with the Federal Reports Act of 1942.

shall be in letters not less than 2 inches nor more than 6 inches in height."

1.101-1 ASSIGNMENT OF REGISTRATION NUMBERS. *(CAA policies which apply to section 1.101 (a).)*

(a) GENERAL. Section 1.101 (a) requires that all U. S. civil aircraft display identification marks. This section, in part, states that the identification marks shall be the Roman capital letter "N" followed by the registration number. The purpose of this policy is to make known the method by which an aircraft owner can obtain a registration number for an unidentified aircraft.

Most aircraft are assigned a registration number and display the proper identification marks prior to leaving the manufacturer's plant. Generally speaking, the registration number will continue to identify that particular aircraft throughout the remainder of its operating life. There are many times, however, that it is necessary for the owner of the aircraft to request that a registration number be assigned his aircraft. This is particularly true with converted military surplus, amateur-built aircraft, experimental aircraft, and aircraft imported from other countries which have not been certificated at the manufacturer's plant.

(b) PROCEDURE. An aircraft should be assigned a registration number before the owner applies for registration. To obtain a registration number, the aircraft owner should furnish the local Aviation Safety District Office, or International Field Office if the aircraft is located outside the United States, the following information:

(1) The name of the aircraft manufacturer.
(2) The aircraft model.
(3) The aircraft serial number.

This information can usually be found on the manufacturer's nameplate, displayed in the aircraft, or on the bill of sale. Upon receipt of this information, the CAA representative will issue a registration number. This number is used when making application for registration and must be displayed on the aircraft in accordance with the requirements of sections 1.101 through 1.107.

"CAR 1.102 *Location of identification marks.* Identification marks shall be located in accordance with paragraphs (a) through (e) of this section.

"(a) *Fixed-wing aircraft.* The requirements of subparagraphs (1) through (3) of this paragraph shall be applicable to fixed-wing aircraft.

"(1) *Wing surfaces.* Identification marks shall be displayed on the right half of the upper surface and the left half of the lower surface of the wing structure. As far as possible, the marks shall be located an equal distance from the leading and trailing edges of the wing. The top of the marks shall be toward the leading edge of the wing.

"(2) *Vertical tail surfaces.* Identification marks shall be displayed on the upper half of the vertical tail surface. They shall be displayed on both sides of a single tail surface and on the outer sides of multitail surfaces. They may be placed either horizontally or vertically.

"(3) *Fuselage surfaces.* Identification marks shall be displayed on the fuselage when the aircraft does not have a vertical tail surface. The marks shall be located on each side of the top half of the fuselage, just forward of the leading edge of the horizontal tail surface. They may be placed either horizontally or vertically.

"(b) *Rotorcraft.* The requirements of subparagraphs (1) and (2) of this paragraph shall be applicable to rotorcraft.

"(1) *Bottom fuselage surfaces.* Identification marks shall be displayed on the bottom surface of the fuselage or cabin. The top of the marks shall be toward the left side of the fuselage.

"(2) *Side fuselage surfaces.* Identification marks shall be displayed below the window lines and as near the cockpit as possible.

"(c) *Airships.* The requirements of subparagraphs (1) and (2) of this paragraph shall be applicable to airships.

"(1) *Horizontal stabilizer surfaces.* Identification marks shall be displayed on the upper surface of the right horizontal stabilizer and on the under surface of the left horizontal stabilizer. The top of the marks shall be toward the leading edge of the stabilizer. The marks shall be placed horizontally.

"(2) *Vertical stabilizer surfaces.* Identification marks shall be displayed on each side of the bottom half of the vertical stabilizer. The marks shall be placed horizontally.

"(d) *Spherical balloons.* Identification marks for spherical balloons shall be displayed on two places diametrically opposite, and shall be located near the maximum horizontal circumference of the balloon.

"(e) *Nonspherical balloons.* Identification marks for nonspherical balloons shall be displayed on each side. They shall be located near the maximum cross section of the balloon, immediately above either the rigging band or the points of attachment of the basket or cabin suspension cables.

"CAR 1.103 *Measurements of identification marks.* The measurements of identification marks shall conform to the provisions of paragraphs (a) through (d) of this section.

"(a) *Fixed-wing aircraft.* The requirements of subparagraphs (1) and (2) of this paragraph shall be applicable to fixed-wing aircraft.

"(1) *Wing surfaces.* The height of the identification marks on the wings shall be at least 20 inches.

"(2) *Fuselage and vertical tail surfaces.* Identification marks shall be such as to leave at least a margin of 2 inches along each edge of the surface. Within these stipulations, the marks shall be as large as practicable, except that this rule shall not be interpreted as requiring the use of marks exceeding 6 inches in height or permitting the use of marks smaller than 2 inches in height. The letters and numbers of each separate group of identification marks shall be of equal height.

"(b) *Rotorcraft.* The requirements of subparagraphs (1) and (2) of this paragraph shall be applicable to rotorcraft.

"(1) *Fuselage or cabin bottom surfaces.* Identification marks shall be at least ⅓ as high as the fuselage is wide, but need not be more than 20 inches high.

"(2) *Fuselage or cabin side surfaces.* Identification marks shall conform to requirements stipulated in subparagraph (a) (2) of this section.

"(c) *Lighter-than-air aircraft.* The requirements of subparagraph (1) of this paragraph shall be applicable to lighter-than-air aircraft.

"(1) On each airship, spherical balloon, or nonspherical balloon identification marks shall be at least 20 inches high.

"(d) *All aircraft.* The requirements of subparagraphs (1) through (3) of this paragraph shall be applicable to all aircraft.

"(1) *Width.* Identification marks shall be ⅔ as wide as they are high with the exception of number '1' which shall be ⅙ as wide as it is high.

"(2) *Thickness.* Identification marks shall be formed by solid lines of a thickness equal to ⅙ of the character height.

"(3) *Spacing.* The space between the identification numbers and letters shall be not less than ¼ of the character width.

"CAR 1.104 *Color.* On each aircraft, identification marks shall contrast in color with the background.

"CAR 1.105 *Affixation.* On each aircraft identification marks shall be painted or shall be affixed by such other means as will insure a similar degree of permanence and legibility, except that aircraft intended for immediate delivery to a foreign purchaser may display identification marks affixed with readily removable material.

"CAR 1.106 *Design.* On each aircraft, identification marks shall have no ornamentation.

"CAR 1.107 *Maintenance.* On each aircraft, identification marks shall be kept clean and legible at all times.

"CAR 1.108 *Identification marks for nonconventional aircraft.* The identification marking rules prescribed in §§ 1.101 through 1.107 are intended to apply to conventional aircraft as they are known today. When aircraft are developed which do not conform to the general configuration of present-day aircraft, a procedure for identification marking shall be prescribed by the Administrator."

1.108–1 IDENTIFICATION MARKS FOR NONCONVENTIONAL AIRCRAFT. (*CAA rules which apply to section 1.108.*)

(a) PURPOSE. The purpose of this rule is

to prescribe the procedure for displaying identification marks on nonconventional aircraft. For the purpose of prescribing identification marks, an aircraft is considered to be nonconventional when it is impossible to display the identification marks in accordance with the applicable rules prescribed in sections 1.101 through 1.107.

(b) PROCEDURE. The owner of the aircraft shall submit to the local CAA representative a dimensioned three view drawing, or dimensioned photographs of the aircraft, including a statement setting forth the reason why it is not possible to identify the aircraft in accordance with the standard requirements. If the owner desires to include a proposed method of marking, it too will be considered. Such proposal shall take into consideration, as near as possible, the standard identification marking procedure set forth in sections 1.101 through 1.107.

This information shall be submitted to the local CAA representative as far in advance of the anticipated flight date as possible, since the CAA representative must forward the information to the Washington office for final decision.

"CAR 1.109 *Identification marks for export aircraft.* An aircraft manufactured in the United States for delivery outside the United States or its possessions may display such identification marks as are required by the State of registry of the aircraft. Such aircraft shall be operated only for the purpose of test and demonstration flights for a limited period of time or while in necessary transit to the purchaser."

FORM ACA-312 (4-22-47) DEPARTMENT OF COMMERCE CIVIL AERONAUTICS ADMINISTRATION

FORM APPROVED BUDGET BUREAU NO. 41-R046.1

APPLICATION FOR TYPE CERTIFICATE

INSTRUCTIONS

Submit in *duplicate (2)* to your Civil Aeronautics Administration regional office. Duplicate will be retained in *region, and original forwarded to* Washington.

1. NAME OF APPLICANT *(Print or type)*

John A. Doe Aircraft Corp.

2. BUSINESS ADDRESS *(Street, City, Zone and State)*

4515 Highland Ave., New York 20, N. Y.

3. FACTORY ADDRESS *(Street, City, Zone and State)*

4515 Highland Ave., New York 20, N.Y.

4. TYPE OF BUSINESS *(Check whether)*

☐ INDIVIDUAL ☐ ASSOCIATION

☐ PARTNERSHIP ☒ CORPORATION

TYPE CERTIFICATE APPLIED FOR

☒ AIRCRAFT ☐ PROPELLER

☐ AIRCRAFT ENGINE ☐ APPLIANCE *(Specify item)* _____

MODEL DESIGNATION(S)

A-1B

THE ABOVE TYPE(S) AND MODEL(S) ARE COMPLETELY DESCRIBED IN THE REQUIRED TECHNICAL DATA, INCLUDING DRAWINGS, REPRESENTING THE DESIGN, MATERIAL, SPECIFICATIONS, CONSTRUCTION, AND PERFORMANCE OF THE AIRCRAFT, AIRCRAFT ENGINE, PROPELLER, OR APPLIANCE WHICH IS THE SUBJECT OF THIS APPLICATION.

CERTIFICATION

I CERTIFY THAT THE ABOVE STATEMENTS ARE TRUE.

D. J. Wood

D. J. Wood
SIGNATURE OF CERTIFYING OFFICIAL

Chief Engineer
TITLE

July 2, 1951
DATE

FIGURE 1.—ACA–312, Application for Type Certificate.

TRANSFER ENDORSEMENT

Immediately after any transfer the person making the transfer shall notify the Civil Aeronautics Administration of the name and address of the person to whom the certificate was transferred.

To H. D. Johnson (Name) By John Q. Smith (Holder) Date Jan. 15, 1951

123 Main Street (Address)

John Q. Smith (Signature)

Raleigh, N. C. (Address)

President (Title)

To _____ (Name) By _____ (Holder) Date _____

_____ (Address)

_____ (Signature)

_____ (Address)

_____ (Title)

To _____ (Name) By _____ (Holder) Date _____

_____ (Address)

_____ (Signature)

_____ (Address)

_____ (Title)

To _____ (Name) By _____ (Holder) Date _____

_____ (Address)

_____ (Signature)

_____ (Address)

_____ (Title)

To _____ (Name) By _____ (Holder) Date _____

_____ (Address)

_____ (Signature)

_____ (Address)

_____ (Title)

To _____ (Name) By _____ (Holder) Date _____

_____ (Address)

_____ (Signature)

_____ (Address)

_____ (Title)

U. S. GOVERNMENT PRINTING OFFICE 16—12363-1

FIGURE 4.—Reverse of ACA-331.

UNITED STATES OF AMERICA
DEPARTMENT OF COMMERCE
CIVIL AERONAUTICS ADMINISTRATION

STATEMENT OF CONFORMITY

To the CIVIL AERONAUTICS ADMINISTRATION:

I, having been authorized for this purpose by JOHN A. DOE AIRCRAFT COMPANY (Manufacturer), certify that the product DOE AIRCRAFT (Make), ABC-1 (Model), 111 (Serial number), has been manufactured in conformity with the data forming the basis for Type Certificate No. 746 and any revision or modification thereof approved by the Administration as of May 7, 1950 (Date), with the exception of the following deviations:

Radio Receiver installation in accordance
with Drawing No. 8-123
Quick Release Door mechanism in accordance
with Drawing No. 9-456

Manufacturer's production flight check completed as of March 29, 1951 (Date)

DATE March 30, 1951

C. C. Burns (Signature)

C. C. Burns

Chief Engineer (Title)

(See reverse side of this form for instructions)

16—21035-2

Form ACA-317 (6-51)

FIGURE 5.—ACA-317, Statement of Conformity.

INSTRUCTIONS

1. This form will be executed by the applicant and submitted to the local Aviation Safety Agent in connection with the prototype of a product presented for type certification and in connection with each product produced under the terms of a type certificate only. When the product is an aircraft, the form, when all deviations have been approved, will be forwarded with the pertinent certification file through the regional office to Washington. Those forms relating to products other than aircraft may be retained in the regional office.
2. All deviations listed must be approved by an Aviation Safety Agent or by the Aircraft Division engineering branch concerned prior to certification of the product or to the issuance and attachment of a CAA Approved Tag, Form ACA–186.
3. If any deviations listed on this form cannot be approved by the CAA, the form will be returned to the applicant with an explanation of the reasons for disapproval.
4. This form, as ultimately filed by the CAA, will indicate with respect to each deviation listed whether approval was made by the local Aviation Safety Agent or the appropriate Aircraft Division engineering branch.

U. S. GOVERNMENT PRINTING OFFICE 16—21085-2

FIGURE 6.—Reverse of ACA–317.

Form ACA-332
(3-49)

DEPARTMENT OF COMMERCE
CIVIL AERONAUTICS ADMINISTRATION

Form Approved
Budget Bureau No. 41-R049.3.

APPLICATION FOR PRODUCTION CERTIFICATE

To: CIVIL AERONAUTICS ADMINISTRATION

1. NAME OF MANUFACTURER

JOHN A. DOE AIRCRAFT COMPANY

2. BUSINESS ADDRESS

4515 HIGHLAND AVENUE, NEW YORK CITY

3. FACTORY ADDRESS

4515 HIGHLAND AVENUE, NEW YORK CITY

4. APPLICATION IS MADE FOR (*Check applicable box*)

☒ ISSUANCE OF A PRODUCTION CERTIFICATE

☐ ADDITION OF TYPE CERTIFICATE(S) AND/OR NEW MODEL AIRCRAFT DESIGNATION AS LISTED IN ITEM 6 TO PRODUCTION CERTIFICATE

NO. _____
(*For aircraft, list type certificate number(s) and model designation in item 6*)

5. ARTICLE TO BE PRODUCED (*Specify aircraft, aircraft engine, propeller, or appliance*)	6. TYPE CERTIFICATE NO.(S) AND/OR NEW MODEL AIRCRAFT DESIGNATION
AIRCRAFT	745, 746 and 966 Model A.

The undersigned, on his own behalf or having been duly authorized by the manufacturer described hereon, states that he is familiar with current Civil Air Regulations applicable to the certificate applied for, and that the applicant assumes full responsibility for the conformity and quality of articles produced under the terms of the type certificate(s) listed above.

I CERTIFY that the above statements are true.

By John A. Doe
(SIGNATURE)

January 25, 1951
(DATE)

President
(TITLE)

INSTRUCTIONS FOR USE OF FORM

When applying for original issuance of a production certificate.—Submit this form in duplicate to the Aircraft and Components Branch of the region in which the manufacturer's plant is located, and attach two (2) copies of a complete report outlining the preparation which has been made by the applicant to maintain the conformity and quality of articles for which the Production Certificate is requested, including:

(a) A general description of the manufacturing lay-out and production flow (manufacturer's lay-out and production-flow charts will be accepted provided they indicate the major operations involved).

(b) A listing and description of any special processes required by the design of the articles to be produced (manufacturer's prepared process specifications may be submitted in lieu of this description).

(c) A description of the established quality control organization, its functions and responsibilities, together with an organizational chart indicating line of authority for quality control and inspection responsibility.

(d) A description of the flight or operational test procedures established, and a copy of each test check-off form utilized.

(e) A list, by name and address, of subsidiary manufacturers producing and supplying to the prime manufacturer, major assemblies and components which are manufactured in conformity with the prime manufacturer's approved drawings and data, to be utilized in the fabrication of the product for which the issuance or modification of a production certificate is requested. Submit with respect to such manufacturers the same information as is required in paragraphs (b) and (c).

When applying for the addition of a type certificate to a production certificate, submit this form in duplicate and attach two (2) copies of a report concerning any special processes, not previously reported, which are required as a result of the design of the articles to be produced under the new type certificate.

U. S. GOVERNMENT PRINTING OFFICE 16—58695-2

Form ACA-332 (3-49)

FIGURE 7.—ACA–332, Application for Production Certificate.

FORM ACA-313 (10-3-46)

DEPARTMENT OF COMMERCE
CIVIL AERONAUTICS ADMINISTRATION

MANUFACTURING INSPECTION AUTHORIZATION

DATE: February 1, 1951

REQUEST NUMBER: F - PA100-1

INSTRUCTIONS- This form will be prepared in quadruplicate (4) and forwarded as follows: Original to the Factory Inspector concerned, one copy to the Manufacturer with a transmittal letter, one copy to the Manufacturing Inspection Division, Washington, D.C., and one copy retained for the Regional files.

TO: AIRCRAFT FACTORY INSPECTOR J. D. BROWN

ADDRESS: 102 ALLAN ROAD, NEW YORK CITY

AN APPLICATION FOR A PRODUCTION CERTIFICATE HAS BEEN RECEIVED FROM THE COMPANY NOTED BELOW FOR THE MANUFACTURE OF

AIRCRAFT

SPECIFY AIRCRAFT, ENGINE, PROPELLER, OR APPLIANCE

UNDER THE FOLLOWING LISTED TYPE CERTIFICATE(S)

745, 746 and 966 Model A.

MANUFACTURER	ADDRESS (Street, City, Zone, and State)
JOHN A. DOE AIRCRAFT COMPANY	4515 HIGHLAND AVENUE, NEW YORK 1, N.Y.

PLEASE CONDUCT THE REQUIRED INSPECTION AND SUBMIT FORM ACA-314, MANUFACTURING INSPECTION REPORT, IN DUPLICATE.

John A. Smith

John A. Smith
CHIEF, MANUFACTURING INSPECTION DIVISION

One
REGION NUMBER

FIGURE 8.—ACA–313, Manufacturing Inspection Authorization.

Form ACA-314
(11-45)

DEPARTMENT OF COMMERCE
CIVIL AERONAUTICS ADMINISTRATION

MANUFACTURING INSPECTION REPORT

Complete this form in duplicate, sign and forward to the Chief, Manufacturing Inspection Division (Regional)	Date	Authorization No.	Region No.
	April 15, 1951	PA100-1	One

Name of Company	Location (City and State)
John A. Doe Aircraft Co.	New York, New York

Producing (Specify aircraft, aircraft engine, propeller, or appliance)	Type Certificate(s) No(s).
Aircraft	745, 746 and 966

RECOMMENDATION FOR PRODUCTION CERTIFICATE

(✓)		TYPE CERTIFICATE(S) NO(S). (Insert below)
X	Approved	745, 746 and 966 Model A
	Unapproved	

INSPECTION OF FACTORY FACILITIES, SHOP PRACTICES, QUALITY CONTROL, AND PERSONNEL

Check one. For each unsatisfactory item give details on reverse side numbered to correspond to item in question.

No.		Yes	No
	PURCHASING		
1.	Are sources of supply satisfactory?	X	
2.	Are materials and parts purchased on detailed specif.?	X	
3.	Are records of purchases and specifications kept?	X	
4.	Are purchased parts inspected before stocking?	X	
	STORAGE FACILITIES		
5.	Is general arrangement orderly?	X	
6.	Are materials and parts segregated and marked?	X	
7.	Is adequate protection provided for materials subject to damage from sunlight, moisture, grease, or corrosion?	X	
	MATERIALS		
8.	Does random inspection of the following materials in stock and the applicable purchase specifications used indicate that they conform with the general requirements for aircraft materials?		

		None	Yes	No
	a. Wood		X	
	b. Bolts, nuts, and rivets	X	X	
	c. Glue		X	
	d. Steel tubing and sheet		X	
	e. Aluminum alloy tubing and sheet		X	
	f. Tierods & cables, incl. terminals & turnbuckles		X	
	g. Castings, Fittings		X	
	h. Fabric		X	
	Other (specify)			
	i.			
	j.			
	k.			

No.		Yes	No
	EQUIPMENT		
9.	Is general arrangement conducive to accurate, orderly work?	X	
10.	Is the machinery installed adequate for the processes attempted by the manufacturer?	X	
11.	Are sufficient jigs and fixtures used to guarantee accurate work reasonably free from defects?	X	
12.	Is general equipment, other than 10 and 11, suitable for processes employed?	X	
	PROCESSES		
13.	Is precision and care used on all details?	X	
14.	Are the following processes performed in accordance with accepted good practice?		

		None	Yes	No
	a. Welding		X	
	b. Brazing and soldering	X		
	c. Gluing		X	
	d. Woodwork		X	
	e. Metal cutting and forming		X	
	f. Heat Treatment	X		
	g. Fabric covering		X	
	h. Corrosion prevention	X	X	
	i. General practices	X	X	
	j. Finishing	X	X	
	k. Assembly	X	X	

No.		None	Yes	No
15.	Are the special processes listed in the manufacturer's application and report performed in accordance with the description furnished?		X	
16.	Are the results of 15 satisfactory?		X	
	INSPECTION SYSTEM			
17.	Is the inspection dept. organized under one responsible head as set forth in the mfr's. application and report?		X	
18.	Are the inspectors provided with sufficient precision instruments, space, and other facilities for careful work?		X	
19.	Are reports and records kept and parts marked to show definitely which parts have been inspected?		X	
20.	Does system for 19 show which inspector handled each case?		X	
21.	Are sufficient inspectors employed to insure that all parts will be inspected?		X	
22.	Does inspection system function satisfactorily? (Determine from inspection of passed parts and from observation.)		X	
	PERSONNEL			
23.	Does management of this company exercise adequate control over the airworthiness of the products manufactured by:			
	a. Personal close contact with work?		X	
	b. Delegation of subordinate responsibility to suitable persons for each department?		X	
	c. Strict insistence upon rules, policies, and supervisory action in keeping with absolute reliability and freedom from defects?		X	
	GENERAL			
24.	Does the manufacturer as a final check test each assembled article for proper operation?		X	
25.	After test are suitable steps taken to correct any defects?		X	
26.	Are the facilities, procedures and organization of this manufacturer established in accordance with the manufacturer's application and report?		X	
27.	Is the sealed drawing list available?		X	
28.	If the answer to 27 is "no", is other evidence of approval of drawings or data available?			

Continued on reverse

FIGURE 9.—ACA-314, Manufacturing Inspection Report.

224434°—52——4

No.	Continued	Yes	No
29.	Are adequate bench and shop drawings, specifications and other technical information available to:		
	a. Inspection personnel?	X	
	b. Production personnel?	X	
30.	Is distribution of the information in 29 prompt, systematic and properly controlled?	X	

No.		Yes	No
31.	Are procedures for segregation and disposition of rejections and salvage material established and adequately controlled?	X	
32.	Are methods for processing and controlling deviations satisfactory?	X	

33. REMARKS concerning items not covered in items 1 through 32. (Do not write beyond right-hand binding margin.)

34. Explanation of Unsatisfactory Items

Signed J. D. Brown
(Manufacturing Inspection Representative)
J. D. Brown

The manufacturer has been furnished with full information in writing, copy attached, concerning all of the unsatisfactory items noted in this report (if any) and has been advised to communicate with this office when he feels that suitable corrective measures have been instituted.

April 30, 1951
(date)

Approved John a. Smith
John A. Smith
Chief, Manufacturing Inspection Division (Regional)

FIGURE 10.—Reverse of ACA-314.

The United States of America
Department of Commerce
Civil Aeronautics Administration

Production Certificate

Number 100

This certificate, issued to
JOHN A. DOE AIRCRAFT COMPANY
whose business address is
4515 HIGHLAND AVENUE, NEW YORK CITY

and whose manufacturing facilities are located at
4515 HIGHLAND AVENUE, NEW YORK CITY

authorizes the production, at the facilities listed above, of reasonable duplicates of AIRCRAFT *which are manufactured in conformity with authenticated data, including, drawings, for which Type Certificates specified in the pertinent and currently effective Production Limitation Record were issued. The facilities, methods, and procedures of this manufacturer were demonstrated as being adequate for the production of such duplicates on date of* MAY 4, 1951

Duration: *This certificate shall continue in effect indefinitely, provided the manufacturer continuously complies with the requirements for original issuance of the certificate, or until the certificate is canceled, suspended, or revoked.*

Date issued:
MAY 4, 1951

By direction of the Administrator
H. M. Toomey
H. M. Toomey
Chief, Aircraft Division

This Certificate is not Transferable, AND ANY MAJOR CHANGE IN THE BASIC FACILITIES, OR IN THE LOCATION THEREOF, SHALL BE IMMEDIATELY REPORTED TO THE APPROPRIATE REGIONAL OFFICE OF THE CIVIL AERONAUTICS ADMINISTRATION

Any alteration of this certificate is punishable by a fine of not exceeding $1,000, or imprisonment not exceeding 3 years or both

GPO: 1949—O-846208

Form ACA-333 (7-49)

FIGURE 11.—ACA-333, Production Certificate.

The United States of America
Department of Commerce
Civil Aeronautics Administration

Production Limitation Record

The holder of
Production Certificate No. 100
may receive the benefits incidental to the
possession of such certificate with respect to

AIRCRAFT

manufactured in accordance with the data forming the
basis for the following Type Certificate(s) No.

745 (ISSUED NOVEMBER 1, 1948)
746 (ISSUED JUNE 16, 1949)
966 (ISSUED OCTOBER 23, 1949) Model A.

By Direction of the Administrator
H. M. Toomey

MAY 5, 1951
Date of issuance

H. M. Toomey
Chief, Aircraft Division

U. S. GOVERNMENT PRINTING OFFICE: 1950—O-876786

Form ACA-333a (2-50)

FIGURE 12.—ACA-333a, Production Limitation Record.

U. S. DEPARTMENT OF COMMERCE
CIVIL AERONAUTICS ADMINISTRATION

APPLICATION FOR AIRWORTHINESS CERTIFICATE AND/OR ANNUAL INSPECTION OF AN AIRCRAFT

Form Approved, Budget Bureau No. 41-R041.5.

INSTRUCTIONS
Please print or type. Submit this form to the Civil Aeronautics Administration Aviation Safety Field Representative.

1. TYPE OF APPLICATION *(Check which)*

a. ☒ ORIGINAL ISSUANCE OF CERTIFICATE
b. ☐ ANNUAL INSPECTION FOR RENEWAL OF CERTIFICATE
c. ☐ AMENDMENT OR MODIFICATION OF CURRENT CERTIFICATE
d. ☐ RECERTIFICATION UNDER THE PROVISIONS OF CAR 8
e. ☐ MULTIPLE CERTIFICATE UNDER THE PROVISIONS OF CAR 8
f. ☐

2. AIRWORTHINESS CLASSIFICATION *(Check appropriate item(s))*

It is requested that the Certificate of Airworthiness be issued to permit operation of the aircraft in the following airworthiness classification(s):

a. ☒ STANDARD (NORMAL, UTILITY, ACROBATIC, TRANSPORT CATEGORIES)
b. ☐ LIMITED (SEE CAR 9)
c. ☐ RESTRICTED (SEE CAR 8)
(Check the restricted special purpose operation(s) to be conducted)
☐ AGRICULTURAL AND PEST CONTROL
☐ AERIAL ADVERTISING
☐ AERIAL SURVEYING
☐ GLIDER TOWING
☐ PATROLLING
☐ FOREST AND WILDLIFE CONSERVATION
☐ WEATHER CONTROL
☐ OTHER
d. ☐ EXPERIMENTAL
(Check the type of experimental operation(s) to be conducted)
☐ RESEARCH AND DEVELOPMENT
☐ AMATEUR-BUILT
☐ DEMONSTRATION
☐ RACING
☐ EXHIBITION
☐ OTHER

3. AIRCRAFT IDENTIFICATION *(Complete all items)*

a. AIRCRAFT MAKE	b. AIRCRAFT MODEL	c. AIRCRAFT SERIAL NO.
Taylorcraft	15A	6-13000

d. ENGINE MAKE	e. ENGINE MODEL
Franklin	6A4-150-B31

4. AIRCRAFT REGISTRATION INFORMATION *(Complete all items)*

a. REGISTERED OWNER'S FULL NAME	b. PERMANENT MAILING ADDRESS	c. AIRCRAFT NATIONALITY AND REGISTRATION MARK
John Que Public	712 North St. Centerville 6, Kansas	N-00123

5. AIRCRAFT OWNER'S CERTIFICATION *(Check and complete appropriate item)*

I hereby certify that I am the registered owner (or his agent) of the aircraft identified in Item 3 above which is registered* with the Civil Aeronautics Administration as required by the Regulations of the Administrator, Part 501 or 502 and when operated displays the following evidence of registration:

a. ☐ CERTIFICATE OF REGISTRATION, FORM ACA-500 (PART A). DATE OF ISSUE _____
b. ☐ APPLICATION FOR REGISTRATION, FORM ACA-500 (PART B). FORM ACA-500, PART A, FORWARDED TO CAA AIRCRAFT RECORDS BRANCH, W-300 ON March 11, 1952 (DATE)
c. ☐ DEALER'S REGISTRATION CERTIFICATE, FORM ACA-1707, DATED _____

*In order to be eligible for registration an aircraft must be owned by a citizen of the United States, as defined by Section 1 (13) of the Civil Aeronautics Act of 1938, as amended.

ATTACHMENTS *(Check which)*

☐ ACA-319 ☐ WEIGHT AND BALANCE REPORT
☐ ACA-337 ☐ DATA, DRAWINGS, ETC.
☐ ACA-317 ☐ UNAPPROVED DEVIATION DATA

John Que Public
(SIGNATURE OF REGISTERED OWNER OR AUTHORIZED AGENT)

March 11, 1952 (DATE)

Owner (TITLE)

16—60837-2

Form ACA-305 (11-51)

FIGURE 13.—ACA-305, Application for Airworthiness Certificate and/or Annual Inspection of an Aircraft.

U. S. DEPARTMENT OF COMMERCE
CIVIL AERONAUTICS ADMINISTRATION

AIRCRAFT INSPECTION REPORT

(To be completed by a CAA representative or approved repair station)

The aircraft described in Item 3 on the reverse of this form has been inspected and found to conform to the following:
(Check and complete applicable items)

1. AIRCRAFT AND ENGINE CERTIFICATION BASIS

a. ☐ AIRCRAFT SPECIFICATION NO. 3A3 THROUGH SHEET REVISION NO. None
b. ☐ AIRCRAFT LISTING PAGE NO. _____
c. ☐ AIRWORTHINESS DIRECTIVE SUMMARY 1951 (YEAR) THROUGH CARD NO. 52-3
d. ☐ CIVIL AIR REGULATION PART 8 (MODIFIED TYPE CERTIFICATE)

2. AIRCRAFT AND ENGINE OPERATING RECORDS

a. ☒ AIRCRAFT NEW—NO PREVIOUS OPERATION OR MAINTENANCE HISTORY
b. ☒ COMPLIANCE WITH APPLICABLE AIRWORTHINESS DIRECTIVES RECORDED
c. ☐ AIRCRAFT RECORDS INDICATE THE AIRFRAME HAS BEEN OPERATED A TOTAL OF _____ HOURS
d. ☐ ENGINE RECORDS INDICATE THE FOLLOWING OPERATION:

SERIAL NO. _____ TOTAL HOURS _____
SERIAL NO. _____ TOTAL HOURS _____
SERIAL NO. _____ TOTAL HOURS _____
SERIAL NO. _____ TOTAL HOURS _____

3. PREVIOUS INSPECTION RECORD (INSPECTION RECORDED ON FORM ACA-319)

a. LAST AIRWORTHINESS INSPECTION CONDUCTED _____ (DATE)
☐ BY AIRCRAFT MANUFACTURER
☐ BY APPROVED REPAIR STATION, CERTIFICATE NO. _____
☐ BY MECHANIC, CERTIFICATE NO. _____
b. ☐ PERIODIC AIRCRAFT INSPECTION REPORT, FORM ACA-319, WAS RETURNED TO OWNER

4. AIRWORTHINESS DOCUMENTS ISSUED OR REVIEWED

a. ☒ OPERATION LIMITATIONS, FORM ACA-309, WAS ISSUED (COPY ATTACHED)
b. ☐ CURRENT OPERATION LIMITATIONS, FORM ACA-309, IS AVAILABLE IN AIRCRAFT
c. ☐ CURRENT APPROVED AIRPLANE FLIGHT MANUAL IS AVAILABLE IN AIRCRAFT
d. ☒ CURRENT WEIGHT AND BALANCE INFORMATION IS AVAILABLE IN AIRCRAFT
e. ☒ THIS INSPECTION HAS BEEN RECORDED IN THE AIRCRAFT RECORDS
f. ☒ CERTIFICATE OF AIRWORTHINESS, FORM ACA-1362, ISSUED TO EXPIRE March 11, 1952 (DATE)
g. ☐ PREVIOUS FORM ACA-1362 WAS ISSUED TO EXPIRE None (DATE)
BY _____ (NAME OF ISSUING REPRESENTATIVE) _____ (DESIGNATION NO.)

5. CAA APPROVED REPAIR STATION CERTIFICATION

The aircraft described on the reverse has been inspected under the authority accorded certificated repair station No. _____ by CAR 52 and was found to be:

☐ AIRWORTHY
☐ UNAIRWORTHY

_____ (REPAIR STATION AUTHORIZED SIGNATURE) _____ (DATE)

6. CAA REPRESENTATIVE CERTIFICATION

I HAVE INSPECTED THE AIRCRAFT DESCRIBED ON THE REVERSE AND FOUND IT ☒ AIRWORTHY ☐ UNAIRWORTHY
(Check appropriate item)

DESIGNEE'S SIGNATURE	DESIGNATION NO.	DATE	
AVIATION SAFETY AGENT'S SIGNATURE: Sam Brown	CAA DESIGNATION NO.: 1-573-24	DATE: 3/11/52	☐ ACCEPTED ☐ REINSPECTED ☐ SPOT CHECKED

☒ ATTACHMENT

U. S. GOVERNMENT PRINTING OFFICE 16—60837-2

Form ACA-305a (11-51)

FIGURE 14.—ACA–305a, Aircraft Inspection Report.

UNITED STATES OF AMERICA
DEPARTMENT OF COMMERCE—CIVIL AERONAUTICS ADMINISTRATION

CERTIFICATE OF AIRWORTHINESS

1. NATIONALITY AND REGISTRATION MARKS	2. AIRCRAFT AIRWORTHINESS CLASSIFICATION
N 12345	STANDARD

3. This Certificate of Airworthiness is issued pursuant to the Civil Aeronautics Act of 1938 as amended. The aircraft identified hereon is considered airworthy when maintained and operated in accordance with the Civil Air Regulations and applicable aircraft Operation Limitations.

4. UNLESS SOONER SURRENDERED, SUSPENDED, REVOKED, OR A TERMINATION DATE IS OTHERWISE ESTABLISHED BY THE CIVIL AERONAUTICS BOARD THIS CERTIFICATE WILL EXPIRE

APRIL 26, 1952

5. DATE OF ISSUANCE OR RENEWAL	6. CAA REPRESENTATIVE	7. DESIGNATION NO.
APRIL 26, 1951	Sam J. Jones SAM J. JONES	1324

8. *Any alteration or misuse of this Certificate is punishable by a fine of not exceeding $1,000 or imprisonment not exceeding 3 years, or both.*

GPO 16—63778-1 Form ACA-1362 (12-50)

FIGURE 15.—ACA–1362, Certificate of Airworthiness.

Form ACA-186
(2-49)

GPO
16—0919-2

UNITED STATES OF AMERICA
DEPARTMENT OF COMMERCE
CIVIL AERONAUTICS ADMINISTRATION
WASHINGTON

The article to which this tag is sealed, and identified as follows:

John Doe propeller
Model CS-57

has been approved as airworthy under
Type Certificate No. 869
Date of inspection 3/29/51
C. H. McMillen C. H. McMillen
C. A. A. Representative.

FIGURE 16.—ACA–186, Approval Tag.

Form ACA-1779 (3-47)

DEPARTMENT OF COMMERCE
CIVIL AERONAUTICS ADMINISTRATION

FORM APPROVED
BUDGET BUREAU NO. 41-R967

APPLICATION AND AUTHORIZATION FOR FERRY PERMIT

1. APPLICATION

INSTRUCTIONS: Submit in duplicate to authorized Civil Aeronautics Administration representative or designated manufacturing inspection representative.

DESCRIPTION OF AIRCRAFT

REGISTERED IN NAME OF	ADDRESS
JOHN H. JONES	1171 WILLOW STREET, LOS ANGELES, CALIF.
MAKE NORTH AMERICAN	**MODEL** AT-6A
MANUFACTURER'S SERIAL NO. 42-49003	**IDENTIFICATION MARK** N12345

DESCRIPTION OF FLIGHT

FROM	TO		
LOS ANGELES, CALIFORNIA	SAN DIEGO, CALIFORNIA		
VIA MOST DIRECT ROUTE	**DATE** 2-19-51	**DURATION** 3 DAYS	

PURPOSE TO FERRY AIRCRAFT TO APPROVED REPAIR STATION #0000 AT SAN DIEGO AIRPORT FOR THE PURPOSE OF RECOVERING CONTROL SURFACES

I HEREBY request authority to ferry the above-described aircraft for the flight specified.

John H. Jones

John H. Jones	Owner	2-19-51
(SIGNATURE OF APPLICANT)	(TITLE)	(DATE)

2. AUTHORIZATION

INSTRUCTIONS: Retain this authorization in aircraft for duration of flight. This is your authority to conduct the flight requested above. This permit is valid until landing is effected at the destination indicated in your request, provided the aircraft is flown by a properly certified crew, is operated in accordance with applicable Civil Air Regulations, and in accordance with the following special limitations:

This Authorization has been issued for the purpose of moving the aircraft described above from Los Angeles, California to San Diego, California where alterations can more advantageously be accomplished. The flight shall be made in accordance with contact flight rules (day) and be limited to crew essential to purpose of flight and their baggage.

This Authorization will expire February 22, 1951.

REMARKS:

None

DATE ISSUED	SIGNATURE OF CAA REPRESENTATIVE	DESIGNEE NO.
2-19-51	Bill S. Darling	

U. S. GOVERNMENT PRINTING OFFICE 16—58721-1

Form ACA-1779 (3-47)

FIGURE 17.—ACA–1779, Application and Authorization for Ferry Permit.

Form ACA-309 (8-47)

UNITED STATES OF AMERICA
DEPARTMENT OF COMMERCE
CIVIL AERONAUTICS ADMINISTRATION

OPERATION LIMITATIONS

ENGINE MAKE	ENGINE MODEL	AIRCRAFT MAKE	AIRCRAFT MODEL	NATIONALITY AND REGISTRATION MARKS	SERIAL NO.	TYPE CERTIF. NO.
Continental	A-75-3	Stinson	HW-75	N12345 (Standard)	7100	709

ENGINE AND AIR SPEED LIMITS NOT TO BE EXCEEDED
(All Values Are Maximum and Are NOT RECOMMENDED OPERATING LIMITS)

ENGINE LIMITS	MINUTES	ALTITUDE	IN. HG.	R. P. M.	HP.	MIN. OCT.
TAKE-OFF	- -	Any	---	2650	75	73
METO* SEA LEVEL		TO Any	---	2650	75	73
METO* ALTITUDE	FROM - -	- -	---	---	---	---

TRUE INDICATED AIR SPEED	M. P. H. LAND	M. P. H. SEA
CLIMB OR LEVEL FLIGHT	120	---
GLIDE OR DRIVE (*Smooth Air Only*)	144	---
FLAPS EXTENDED	85	---

*METO—MAXIMUM EXCEPT TAKE-OFF

TAKE-OFF WEIGHT LAND	TAKE-OFF WEIGHT SEA	LANDING WEIGHT LAND	LANDING WEIGHT SEA
1580 lbs.	---	1580 lbs.	---

C. G. LIMITS

LAND	SEA
(+14.7") to (+19.0")	- -

WEIGHT

SEE WEIGHT AND BALANCE DATA FOR LOADING INFORMATION

DATUM

Wing Leading Edge

LIMITATIONS

INSPECTOR'S OR DESIGNEE'S SIGNATURE	DESIG. NO.	DATE
Robert A. Burbick *Robert A. Burbick*		May 1, 1951

ADDITIONAL LIMITATIONS YES ☐ NO ☒ (IF YES—SEE OVER)

THIS FORM MUST BE AVAILABLE IN THE AIRCRAFT WHEN OPERATED

16—45710-3 GPO

FIGURE 18.—ACA-309, Operation Limitations.

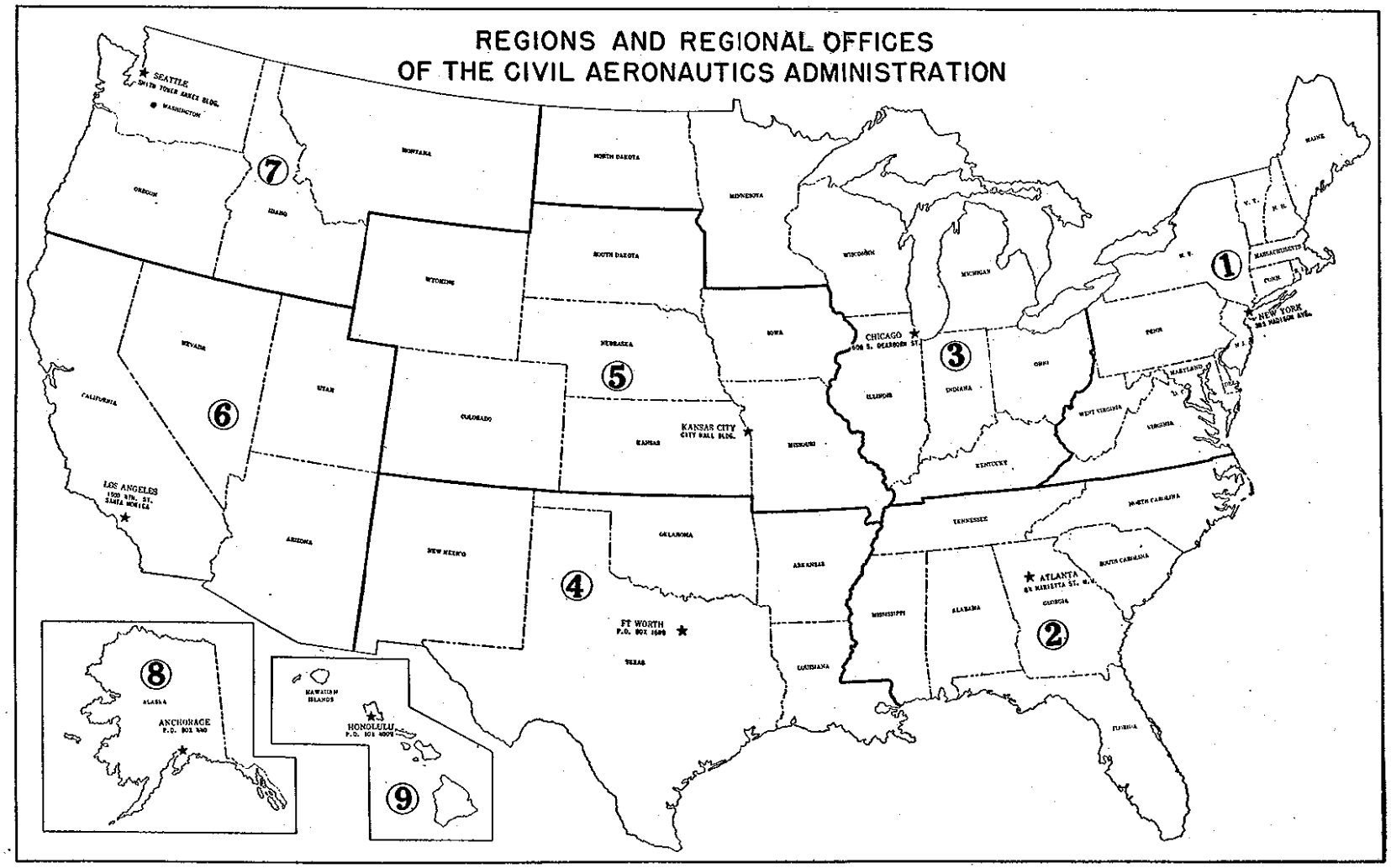

FIGURE 19.—Regional Boundaries and Location of Regional Offices. (See page 52.)

Regional Offices of Civil Aeronautics Administration

REGION 1

Federal Building
New York International Airport
Jamaica, Long Island, New York

REGION 2

50 Seventh Street, N. E.
Atlanta 5, Georgia

REGION 3

185 North Wabash Avenue
Chicago 1, Illinois

REGION 4

P. O. Box 1689
Fort Worth 1, Texas

REGION 5

City Hall Building
Kansas City 6, Missouri

REGION 6

5651 West Manchester Avenue
Los Angeles 45, California

REGION 7

P. O. Box 3224
1225 Exchange Building
Seattle 14, Washington

REGION 8

P. O. Box 440
Anchorage, Alaska

REGION 9

P. O. Box 4009
Honolulu 12, T. H.

INTERNATIONAL

CAA, IR–500
Washington 25, D. C.